

A Hand Book of  
Philosophical  
Analysis

LAXMI DEVI





*Mercada Rana*

# **A HAND BOOK OF PHILOSOPHICAL ANALYSIS**

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*By :*

**Laxmi Devi**

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*By .*

**Laxmi Devi**

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## Meaning and Definition

*Q. 1. What is the use of Semantics in philosophy ?*

*Ans.* Philosophers discuss highly abstract problems on man's life and his world, but they are not unanimous in their definition of the term philosophy.

So before giving the meaning or the definition of the term 'Philosophy', it is desirable to be very clear as to what we understand by the words 'meaning' and 'definition'. This is necessary, because different philosophers have given very different, even conflicting definitions of Philosophy and it will not be possible to properly assess their value, unless we understand well the very words 'meaning' and 'definition'. It is for this reason that Semantics, i.e., the study of the relation of language to things has been recognised as an unavoidably important branch of Philosophy these days.

*Q. 2. What is a word ? Distinguish between word noise, sign and symbol.*

*Ans.* Language consists of sentences and a sentence consists of words. A word is a letter (e.g., a, I) or combination of letters (e.g., cat). The word of a language has a meaning, but the letters themselves have no meaning. So word is the smallest unit of meaning.

A spoken word is a noise. A written word is a set of marks on some surface. But, besides being this, it has also a meaning.



All words have meaning, but all that have meaning are not necessarily words. Mathematical symbols, a fall in barometric pressure, ringing of the calling-bell etc. have meaning, but they are not words.

Everything having a meaning is said to be a sign. Ringing of the college-bell is the sign of the beginning or end of a class. A is a sign of B, if A stands for B.

Signs may be natural or conventional. Appearance of dark clouds in the sky is a sign of rain. It is a natural sign. A track of footprints of a certain kind is a sign that a particular kind of animal has passed by that way. This is also a natural sign. We learn the meaning of such signs from the natural phenomena by discovering the relation between the sign and what it stands for. Sounds of bell, on the other hand, are conventional signs. We have determined what they are to mean.

Words are conventional signs, because human beings have picked up certain noises and have given them meanings. English speaking people use the noise "Cat" to mean the animal that mews, but Oriya speaking people use the noise "Bilei" to mean the same animal. In learning a language we learn the convention of using the noises.

Screams and groans are also noises made by human beings, but they are not words. They cannot be said to be conventional. Without knowing the convention of English language, we cannot understand the noise "Cat", but we can very well understand the screams and groans, tears and laughter of an English-speaking man.

In the case of natural signs, the relation between the sign and what it signifies is usually a causal relation (e.g., clouds and rain) or a relation of resemblance (e.g., footprints and the foot). But some signs may have both natural and conventional elements. A road sign indicating a curve ahead may be given by just a picture without any word. The natural element is the



resemblance between the sign and the road ahead. But the conventional element is that it is just ahead and not behind or two miles after. The onomatopoeic words, i.e. words which sound like their meaning (e.g., *buzzing* of bees, *ding dong* of bells, *whirling* of the moving wheel) have obviously the natural element of resemblance, howsoever faint it may be. They have also the conventional element, because different languages have the convention of using different onomatopoeic words for the same sound and we have to learn the convention.

The word 'symbol' as distinguished from the word 'sign' is used sometimes in the sense of conventional sign and sometimes in the sense of sign that arouses a concept. But in any case, 'sign' is used as a general term in every circumstance, where one thing stands for another.

**Q. 3.** *What is the relation of words to the things they stand for ?*

**Ans. :** The word 'Cat' is surely different from the animal cat, but primitive people believed that there was some natural connection between the word and the thing it stands for. It should be realised that different languages use different words to mean the same thing and so there is no natural connection between a word and the thing it stands for. Word is an arbitrary, conventional sign for the thing. It is not that the astronomers discovered the names of stars, but that they originally gave some arbitrary names to them, others accepted them and the convention is established. Similar is the case with every word. Words are like labels of bottles. As the label only indicates what is in the bottle, but has no intrinsic relation with the content, similarly the word only indicates what it stands for and has no other natural relation with what it signifies. The smell of Ammonia is a natural sign for the thing Ammonia, but the word 'Ammonia' is not a natural, but only a conventional sign. Any other noise could have been used to indicate the thing and it would not have been the wrong word for it.

When some names are already given, it is often convenient to be guided by those names in the subsequent name giving process.

A class of people is given the name 'Finns' and so their country may be called 'Finland'. But it would not have been wrong to use any other noise to indicate the country.

Again, suppose somebody decides to use the noise 'lamp' for what has been conventionally called a 'chair'. It would not be the wrong word for the thing though it would be rather confusing to others, unless they remember the meaning with which he is using the word. The word 'lamp' would have two meanings then for his listeners; the conventional meaning while listening to others, and the new meaning while listening to him. These difficulties will surely arise, but still it cannot be said that 'lamp' is the wrong noise for anything whatever. 'Anybody can use any noise he wants to refer to anything he wants, as long as he makes clear what he is using the noise to refer to'. This is the rule of freedom of stipulation.

*Q. 4. What is the rule of common usage? Are there exceptions to this rule?*

*Ans. :* In spite of the freedom of stipulation, we generally follow common usage of words in order to avoid confusion and misunderstanding. A table, if seen through ultra-microscopic eyes, is found to contain empty spaces in between its atoms and electrons. But in common usage, we speak of it as 'solid' and distinguish it from things like water which are recognised as 'liquid'. In practical life, the line of distinction between 'solid' and 'liquid' is drawn from a standpoint that is altogether different from the standpoint from which the table can be considered to be not really solid. So as a rule, in common parlance, we follow the common usage of words.

#### **Exceptions to the rule of common usage**

Following the common usage has great practical utility. But there are some exceptional cases :

1. Suppose, we need to refer to something for which there is no word in our language. In such a case, we may coin



a word, which becomes in course of time a conventional symbol, if other people adopt it. Kasner coined the word 'googol' to mean 100th power of 10 and it has become a conventional symbol now-a-days.

2. Sometimes common usage blurs the distinction between the meanings of two words by using them as synonyms. This tendency of the common usage should be resisted for the sake of clarity. Now-a-days: 'God' and 'Nature' are being used in the same sense, though their meanings were clearly different. 'Annoyed' and 'aggravated', 'jealous' and 'envious', 'dumb' and 'stupid' are other pairs of words which are being used as synonyms. This practice leads to needless duplication of language and a vacuum, i.e., we have two words to express the same situation and no word for a situation needing a word.

Violation of common usage, however, is not justified when it brings about confusion instead of clarity. "There are no democracies left in the world". "There are no material objects in the world, there are only spirits". Such statements are surprising. But if the speaker reveals that by 'democracy' he means the democracy of the City States of ancient Greece and in the denotation of 'spirit' trees, houses, planets are included, we have no difficulty in agreeing with him.

3. The most important exceptional case, where violation of the common usage is called for is with regard to the blanket terms of the language. The word 'liberal' is considered to be such a term. Its meaning in its present day usage, is objected to be very vague and indefinite and consequently confusing. In such a case, it is advisable to either drop the use of the word altogether or to use it in a restricted sense with a precise meaning.

It should be clearly understood that following common usage of words does not imply following or not following the traditional customs or common beliefs. Further, it is a useful and convenient guide to the meaning of a statement not to its truth. Following common usage we understand the meaning of

the statement "All cats bark". But we know from experience that the statement is not true, it is false.

**Q 5.** State with examples the meaning of the word 'Meaning'.

**Ans.** The word 'meaning' is used in a number of senses.

1. **Indicator** : A twister in the sky means a tornado is coming, i. e., 'the former event is an indicator of the latter event. Dark clouds mean that 'rain is coming' is the same as 'Dark clouds indicate that rain is coming'. Here clouds do not stand for rain, but are indicator of rain.

2. **Cause** : These foot-prints mean that the thief wore shoes of crepe sole i. e., the footprints are caused by shoes of crepe sole. This smell from the kitchen means spicy food is being cooked, i. e., the cooking of spicy food is the cause of the smell.

3. **Effect** : Armament race means war. The statement means that the effect or the result of armament race is war.

4. **Intention** : My meaning in saying this to you is to warn you of the impending danger. Here 'meaning' can be substituted by 'intention' and the sense of the statement remains the same. "I meant to help you" is the same as "I intended to help you."

5. **Explanation** : Some balloons do not go up in the air but some do, what does that mean? Here the question means the same as why does that happen? It is a request for an explanation.

6. **Purpose** : Meaning in the sense of intention is very often the same as meaning in the sense of purpose. "My meaning in saying this is to warn you" can be translated as. "My purpose in saying this is to warn you." "My visit has become meaningless" means "My visit has served no purpose".

7. **Implication** : Your not getting a reply so long means the address was wrong. Here 'means' is used in the sense of implies. If you had only Rs 10/- and you have spent Rs. 4/- that means



You are left with only Rs. 6/-. The meaning here is that the former statement implies the latter.

8. *Significance* : Instead of saying "I feel that my life has no significance" one may say "I feel that my life has no meaning". Here meaning is used in the sense of significance.

Q. 6. *What sort of ambiguity is involved in questions about meaning like "What is ..... ?"*

Ans : Somebody asks the question : "What is syzygy ?" or "What is the meaning of syzygy ?" It is not clear as to whether he wants to know the meaning of the word 'Syzygy' or the meaning of the thing which the word indicates. In the former case, the question is answered, if we say. "The word 'syzygy' means the point on the moon's orbit at which the moon, the sun and the earth are in one line." In the latter case, this reply is not the answer to the question. The questioner knows the meaning of the word 'syzygy' but wants to know about the meaning (in some sense of the meaning) of that point in the moon's orbit. What is matter ? What is time ? What is the meaning of life ? etc. are generally questions of the latter type. Here most probably the meaning of the things for which these words stand is being asked. These two senses of such questions should be clearly distinguished, otherwise they lead to confusion and unnecessary arguments. "Most people know what is lightning." This statement is obviously true, if the meaning of the word is being referred to. It is equally obviously false, if the physics of the thing lightning is being referred to. But two people will differ and argue unendingly unless these two senses are understood and distinguished.

Q. 7. *How does ambiguity in the use of a word arise ? Explain the different types of such ambiguity ?*

Ans. : Popularly a word is said to be ambiguous, if it has more than one meaning. Semanticists and philosophers use the word 'ambiguous' in a more restricted sense. According to them ambiguity lies not in the word, but in its use. A word may

have several meanings, but if the context in which it is used makes the meaning clear, then the word is not ambiguously used, e.g., 'I am going to the bank to deposit some money'. If the word has two meanings, which are completely unrelated, then usually it is not ambiguously used, because the context makes the meaning clear. But very often the meanings of a word are related but not exactly the same. For example, a knife is *sharp*, when it cuts well; a cheese is *sharp*, when it appears to cut the tongue; and a student is *sharp*, when he has an intellect having penetrating power similar to cutting.

Ambiguity arises in the use of a word having several meanings, which are related but not identically the same.

*Process-product Ambiguity* : We find this kind of ambiguity in the use of a word which stands for both the process and the product. "They went to look at the construction." Here 'construction' may mean the process of construction, e.g., of a building; or the product of this process, i.e., the building itself. While writing a poem (process), the poet expresses his feelings and the poem (product) expresses those feelings.

*Type-taken Ambiguity* : We find this kind of ambiguity in the use of a word which stands for both the type and the token. The same word written 100 times represents 100 tokens. In the token-sense of the word, there are 100 words. But in the type-sense of the word, there is only one word. Similarly the same sentence written hundred times is one sentence in the type-sense, but 100 sentences in the token-sense. Shakespeare has used slightly more than 14000 words in all his writings in the type-sense, but he has used millions of words in all his writings in the token sense.

*Figurative language* : The figurative use of a language sometimes leads to ambiguity. From the literal sense of a word we develop a figurative sense and naturally both have some similarity in meaning. But again, taking this figurative sense as basic, other figurative senses develop and the process goes on. Ultimately very little similarity is left between the literal sense



and the figurative sense. When the similarity of meaning between the literal and figurative use of a word is great, the meaning of the figurative use can be guessed, e.g., the neck of a bottle, the leg of a table, a heavy heart etc. But when the similarity in meaning is very little, it is difficult to guess the meaning, e.g., set the world on fire = do something remarkable.

It should be noted that we are not using a word in different senses, when it can be used to different things. 'Tree' has exactly the same meaning though on different occasions it may stand for either mango or guava or peepul tree. But it is being used in a different sense, if we are referring by it to a 'family tree'.

*Q. 8. Explain the different theories of meaning.*

*Ans. :* There are several theories with regard to the meaning of a word.

*(a) The ideational theory of meaning :*

According to this theory, what a word means is the thoughts, feelings or mental pictures that arise in our mind on hearing the word. This theory is not considered satisfactory, because the same word, e.g., 'cat' may arouse different images, attitudes, feelings or thoughts in different people, though it is admitted that its meaning is same for all.

*(b) The behavioural theory of meaning :*

According to this theory, what a word means is the behaviour or tendency towards behaviour that is produced in persons on hearing the word. This theory, again, is not considered satisfactory, because the same word, e.g., 'snake' may arouse different behaviours or tendencies towards behaviour in different people, though it is admitted that its meaning is same for all. In some people it may arouse no tendency at all, but still the word is not meaningless for them. It is pointed out, further, that even if the word whether used singly or with other words of a sentence, arouse a uniform behaviour, then the behaviour is not the

meaning of the word, but the consequence of understanding its meaning.

**(c) The referential theory of meaning :**

According to this theory, what a word means is the thing or things in the world to which it refers. This theory is satisfactory only in the case of words which are proper names. In the case of other words, it is not at all satisfactory.

(i) Interjections, e.g. 'Oh' 'Aha' etc. and conjunctions, e.g., 'and', 'or', 'but' etc. do not refer to anything, even if 'thing' be used in a very broad sense to cover qualities, relations, etc.

Surely, these words have some meanings, otherwise we would not understand them at all, but they do not refer to anything. Interjections express or arouse feelings. Conjunctions have syntactical uses. 'You are going and I am going' is different in meaning from 'You are going or I am going.' But having some function is not the same as referring to some thing or things.

(ii) Some words refer, but what they refer to is not their meaning. Personal pronouns, e.g., I, you, he, she etc refer to different things on different occasions. 'This', 'that', 'here', 'now' etc. change their reference on different occasions. But the meaning in the case of each of these words cannot be said to be changing. 'I' has the same meaning everytime it is used, but it refers to Jones, if Jones uses it and to Smith, if Smith uses it. So the meaning of such a word is not the same as the object referred to.

(iii) Two sets of words may have different meanings, but may refer to the same thing. 'The Vice-President of India' has a different meaning from 'The Chairman of the Rajya Sabha of India'. One can be understood without knowing the meaning of the other. But they refer to the same person.

(iv) The reference theory does not work satisfactorily even in the case of nouns.



Each of the words 'flying-horse', 'dragon', 'unicorn' etc. has a meaning, but it has nothing to refer to, since such a creature does not exist. Horses exist, but still the meaning of the word 'horse' cannot be given by pointing to a particular horse or referring to the entire class of horses. In the former case, there is the possibility of supposing the word 'horse' to be a proper name of the animal pointed out or as equivalent to animal. In the latter case, there is the possibility of equating the sentence, 'The class of horses is very large' with 'Horse is very large'. Further, the meaning of horse could have been understood even if there would have been no horse at all to refer to as in the case of unicorn. So the meaning cannot be same as reference

(d) *Words as tools theory :*

According to this theory, just as each tool in a tool-kit is used to do a different job, so also each kind of words has a different kind of job to perform in a language. We know the meaning of a word, when we exactly know what job it does in language, i.e., the rule for its use. If we learn in what circumstances we can use the word, then we have learnt its meaning.

We know the meaning of the word 'horse', if we know the conditions under which the word can be applied to something and also in what circumstances it cannot be applied. We know the meaning of the word 'slowly', when we know the manner in which something should move in order that the word be applicable. We know the meaning of 'above' when we know how it is applicable in the circumstance of there being at least two things, one higher than the other. Every word in the language has a distinctive function to perform and if we know its function, we know its meaning. This theory is equally well applicable to all parts of speech whether they be nouns or pronouns, verbs or adverbs, prepositions or conjunctions.

Knowing the use of a word in the cognitive sense, however, should be distinguished from its use in the sociological sense. Without knowing the meaning of even a single word

in English language, somebody may notice that certain noises are used in certain circumstances, e. g., 'Good morning' while meeting, 'Good luck' while parting. Obviously, he does not know here the rule of their uses in the language and of course does not know the meaning of these words.

*Q 9. What is definition by equivalent words ?*

*Ans.* When we make clear the rule which specify the conditions under which a word or phrase can be used, then we are said to define that word or phrase. The usual and standard definition is defining a word by equivalent words.

In language, synonyms, i. e., two words having exactly the same meaning (e. g., 'Valour' means 'courage') are rare. So usually for giving the definition of a single word, we need a set of words, e. g., 'father' means 'male parent', 'yard' (in the sense of a measure of length) is 'three feet' and so on.

The definition of a word is logically satisfactory, if the word and the definition are interchangeable in every sentence where they are used and the meaning of the sentence remains the same. A definition which is logically satisfactory may not be so psychologically. The definition of 'brother' as 'male sibling' is logically satisfactory, but it may not be psychologically satisfactory to a person who does not know that 'sibling' means children of the same parents. Not all words of a language can be defined by equivalent words. Words used for sensory experiences, e. g., 'red' 'pain' 'sweet', 'fear' etc. and very abstract words like 'time', 'being,' 'relation' etc. cannot be defined thus.

*Q 10. What are defining characteristics ?*

*Ans.* Meaning of words standing for things, qualities, actions and relations may be made clear by determining the defining characteristics of what they stand for. Being a plane figure and being bounded by three sides are considered to be the defining characteristics of triangle, because anything which lacks these characteristics cannot be said to be a triangle.

Equality of the sides is not a defining characteristic of triangle, but it is a defining characteristic of equilateral triangle. If this characteristic be not there in a triangle, it would still be called a triangle, but it cannot be said to be an equilateral triangle. So a defining characteristic is said to be a *sine qua non*, i.e., without which the word concerned is not applicable to the thing under consideration.

It should be noted that a defining characteristic of one thing can also be a defining characteristic of many other things. For example, a defining characteristic of triangle, i.e., being a plane figure, is a defining characteristic of also circle, quadrilateral, square etc. In order to be called a triangle the thing should possess all the defining characteristics. The sum of all the defining characteristics is said to be what is designated by the word. If two words designate exactly the same characteristics, they have the same definition, e.g., 'asteroid' and 'planetoid'. Both these words mean exactly the same, i.e., a small planet. It should be noted that what is said to be the designation of the word here was said to be the connotation by J. S. Mill.

Q. 11. What is a satisfactory definition? Is the causal definition satisfactory?

Ans. A satisfactory definition should not be either too broad or too narrow.

'Telephone', if defined as 'instrument for communication', is too broad, because other instruments of communication, e.g., wireless, will be included in the definition.

'Tree', if defined as 'plant with green leaves more than 50 feet tall' is too narrow, because many trees of lesser height and of leaves of other colours are excluded from the definition. 'Telephone', if defined as instrument of long distance communication' is both too narrow and too broad. 'Long distance' in the definition has made it too narrow, but otherwise it is too broad as it includes wireless etc.



A definition, without being too narrow or too broad, may still be unsatisfactory. Suppose, all red things in the world are round. Then defining 'red' as 'round' or 'round' as 'red' would be neither too narrow nor too broad, but still the definition is unsatisfactory, because 'red' is a colour word and 'round' is a shape word.

A satisfactory definition must be adequate to the actual and also the possible cases. Suppose, 'elephant' is defined as 'an animal who drinks water by first drawing it up in its trunk and then ejecting it into the mouth.' Nothing but elephants do this. So the definition is neither too narrow nor too broad. But then the question arises : (i) If an elephant loses the use of its trunk in this manner will it be no longer called an elephant ? (ii) If an animal is discovered which is exactly like a goat, but has a small trunk with the help of which it drinks water, will it be called an elephant ?

The above considerations show that the proposed definition of elephant is unsatisfactory, though it may be admitted to be neither too narrow nor too broad.

A satisfactory definition includes all and only the defining characteristics. We should ask ourselves the question : will a thing whether actual or imaginary be called X if it lacks the characteristic A ? If the answer is 'No', then A is a defining characteristic of X. If the answer is 'Yes', then A is an accompanying characteristic, even if it is found in all the existing things called X.

The definition of a word is not eternally fixed. Suppose all the things called X have the characteristic A, B, C and D. At one time the word 'X' may be defined by the characteristics A, B and C. In that case, A, B and C are defining characteristics and D is a universally accompanying characteristic. But in course of time it may be found convenient to include also 'D' in the definition or even to replace any one or more of the defining characteristics by D. Formerly 'being a mammal' was not included in the definition of 'Whale. But now-a-days it is

included in its definition. Formerly, the disease Syphilis was defined by its symptoms. But after the discovery of the bacteria spirochete in syphilitic patients, it is defined now a days only by this characteristic. So a satisfactory definition of one age need not be considered so at another age. It has to be modified in accordance with the convention of the age.

*Causal definitions* : In scientific circle, some technical words are defined causally, e.g., 'syphilis'. But every word cannot be defined thus. Further, though some definitions may be considered satisfactory in the scientific circle at present, they may appear unsatisfactory from other points of view. The wave theory of light has enabled the physicists to define 'red' as 'the colour within the range 4000—7000 Angstrom units'. But people understand the meaning of 'red' and use the word 'red' correctly without bothering to know this scientific definition or what causes that particular shade of colour. Red colour seen in dream and hallucination are not caused by emanation of light waves. And the meaning of 'red' would remain unchanged, even if the wave theory be discarded. Similarly, the definition of 'pain' as 'stimulation of never endings' or of 'depression' as 'repressed anger', may be acceptable in science as satisfactory definitions, which indicate the causal conditions of these experiences. But unless the meaning of these words be understood by some other means, it could not have been possible to relate them to their causal conditions. So the causal conditions of the thing X should not be confused with, the definition or the word 'X'.

**Q 12** *Why is the distinction between defining and accompanying characteristics considered important ?*

**Ans** : Many unnecessary disputes could be avoided if the participants in the discussions clearly distinguish between the defining characteristics and accompanying characteristics of the subject of discussion. The defining characteristics are part of the definition of the word, while the accompanying

characteristics are the qualities of the corresponding object. The statement of the defining characteristics of X gives the meaning of the word 'X', but the statement of the accompanying characteristics of 'X' states some facts about the object X. If the characteristic A is defining, then 'X is A' is an analytic statement; its aim is to clarify a verbal usage. If the characteristic A is accompanying, 'X is A' is a synthetic statement; its aim is to give some information about a fact. 'Steel is an alloy of iron' states a defining characteristic of the word 'steel'. But 'steel is used for purposes of construction' states an accompanying characteristic of the thing steel. If the former characteristic be absent in a thing, it cannot be called steel. But if the latter characteristic be absent, still it may be called steel.

'The good student is one who gets the highest grade.' If this is stated as a definition of the term 'good student', and we do not agree to such a definition, we should give reasons as to why we consider the definition to be unsatisfactory. If it is being advanced as a statement of fact, we can show it to be false only by citing some factual evidence of good students not securing the highest grade.

If the swan-shaped birds of black colour found in Australia are admitted to be swans, 'All swans are white' is obviously a false statement of facts regarding the bird swan. Here whiteness is being taken as an accompanying characteristic of the bird 'swan'. But if whiteness be taken as a defining characteristic of 'swan', then no bird lacking white colour can be called swan and those birds of Australia cannot be said to be swans.

It should be noted that those black birds of Australia will not become non-existent, even if whiteness be taken as a defining characteristic of 'swan'. They will exist none the less, only they cannot be called swans.

Definition is concerned with meaning not with existence. Both 'horse' and 'unicorn' have meaning and are definable. From



experience we know that the former exists, while the latter does not. For knowing the meaning of a word, we ask for its definition. For knowing whether something corresponding to the word exists or not, we have to make empirical investigation. By defining a word we cannot make things corresponding to it exist or non exist. If meaning and definition had to refer to existence or denotation 'unicorn' 'centaur' 'dragon' etc. having no denotation would be meaningless. But clearly they have different meanings in English language though they all lack existence.

Distinction between defining and accompanying characteristics solves another problem that may confront us.

It is admitted that things of the universe are constantly changing. Material things are groups of atoms and electrons which are not in the same state even for two consecutive seconds. There is not a single cell in our body that was there before seven years. The water of a river flows down and we never get the same molecules while bathing in the same river twice. But in spite of this fact, we retain the names given to things and take them to be same as before. A table remains a table, because in spite of the changes, it retains those characteristics which make it a table. In other words, if the defining characteristics of the table remain just the same though the accompanying characteristics have changed, then it is a table. On similar grounds the river retains the name given to it and the person John continues to be called John. John who was a young man fifty years before cannot, however, be called a young man now, because the defining characteristics of 'young man' are no longer there in him.

Instead of taking a few characteristics as defining and the rest of them as accompanying, if we attempt to make all characteristics defining, then of course, we cannot use static words for changing things. But this is neither convenient nor the normal practice.

*Q. 13. What is the right definition of a word? Should it be in terms of the intrinsic characteristics or the relational characteristics?*

*Ans. :* There is no 'right' or 'wrong' way of defining all words. Words are defined one way or another for reasons of convenience. Sometimes some of the intrinsic characteristics and sometimes some relational characteristics are chosen as the defining characteristics.

An intrinsic characteristic is that characteristic of the thing which does not depend on the existence of things other than the thing itself. A relational characteristic, on the other hand, is that which the thing has only in relation to others. The elements of which the thing is made, its shape etc. are intrinsic characteristics. But the property of 'being a mother' or 'remaining in the northern side' is a relational characteristic.

Chemical compounds are defined by their constitutional elements (water= $H_2O$ ). Words indicating organic and inorganic things (e.g., cow, horse, swan, table, chair etc.) are defined by the shapes of things. Some other words (e.g., mother, younger, larger etc.) are defined by relational characteristics. X is mother of Y only when the former has given birth to the latter. Some other words again (e.g., chair, axe, pen, knife etc.) are sometimes defined by the function of the thing (viz, sitting, chopping, writing, cutting etc.).

It should be noted that just stating one of the commonly accepted defining characteristics does not necessarily make a satisfactory definition. Alternative definitions of the same word are also possible. So defining a word in one way and claiming it to be the only 'right' definition of the word is an unjustified claim.

*Q. 14. Distinguish between stipulative and reportive definition*

*Ans. :* Words are arbitrary symbols which are given meaning by the persons who use the words. When we state the meaning of a word, which has been given by others, it is

said to be the *Reportive definition* of the word. It is also called the *Lexical definition*, because a lexicon (dictionary) contains such reportive definitions. English speaking people have actually used the noise 'triangle' to mean a closed plane figure bounded by three straight lines. So it is the reportive or lexical definition of triangle.

Sometimes, occasions arise when we ourselves give the meaning to a word. Here we are stipulating a meaning or specifying the meaning in which we are going to use the word. In this case, the definition is called *Stipulative definition*.

There is no need for stipulative definition in the case of a word having a definite and established meaning.

(i) When a word has more than one meaning and we specify the meaning in which we are using the word, we are not stipulating a new meaning, but stipulating the one meaning (out of the several established meanings) in which it is being used on this occasion.

(ii) When we believe that people are using a word with no clear meaning, we may stipulate a more precise meaning than the existing meanings. If our stipulation is accepted by others, the meaning becomes established in due course.

(iii) When we find no word in the language meaning exactly what we wish to express, we invent a noise and give it the meaning we have in mind. This is a case of pure stipulation and not at all a report.

It may be noted that while stipulative definitions are neither true nor false, reportive definitions are either true or false. Stipulative definition is merely a proposal, a resolution, a notice as to how one is going to use a word. Any word can be given any meaning one wants to give. So such definition, naturally, cannot be said to be either true or false. But reportive definition claims to give the meaning that has been already given to a word and has been accepted by the users of the language. So naturally, either it is a true report or a false



report about the meaning of the word concerned. For example, the reportive definition of 'triangle' as 'a closed plane figure bounded by three straight lines' is a true definition of triangle. But if it be defined as 'a four sided figure' or a 'five foot book-shelf', it is a false reportive definition of 'triangle'.

*Q 15 What is meant by the fundamentality of definition ? Illustrate your answer by evaluating some classical definitions of 'man'.*

*Ans.:* With advancement of knowledge, definitions of words, specially those of technical words, change and the present true reportive definitions are considered better than the true reportive definitions of an earlier age.

A satisfactory definition should not only cover all the existing members of the denotation of the word defined, but also should cover the possible members. The fundamentality of the definition is another point which is taken into consideration while calculating the relative satisfactoriness of the proposed definition of a word.

Let us suppose that the object X is always found to have the characteristics A, B, C and D and no other object has them. So a definition of the word 'X' can be given by taking any one of them to be the defining characteristic. But of these characteristics, if A be such a characteristic that its presence leads to the presence of the others and they could not be present unless A be there, then A is more fundamental than B, C, and D. In such a case, the definition of 'X' in terms of A is considered better than and preferable to the definitions in terms of others. Thus the definition of the disease 'pneumonia' in terms of the virus is preferable to its definition in terms of the symptom. The existence of the virus explains the symptoms, but not conversely. Similarly, the definition of the word 'noon' as 'the time when the sun crosses the meridian' is preferable to its definition as 'the time of the day when the shadows cast by the sun would be the shortest'.

In the light of the above discussion, we may examine some proposed definitions of 'man'.

There is no difficulty in demarcating the denotation of 'man'. There is little or no chance of difference of opinion in deciding which creatures are men and which not. But in spite of this agreement, difficulties arise in arriving at an agreement with regard to its designation or definition, which would cover all the actual and possible human beings. Let us examine the following definitions of 'man'.

1. 'Man is a featherless biped. This is unsatisfactory, because a plucked chicken is also a featherless biped.

2. 'Man is the laughing animal'. This is unsatisfactory, because hyenas also laugh, if laughing be not confined to an intelligent appreciation of a humorous situation.

3. 'Man is the animal with a sense of guilt.

4. 'Man is the aesthetic animal'.

3 and 4 are unsatisfactory, because

(i) some abnormal human beings may lack these characteristics but they will be counted as man;

(ii) some future animals who have these characteristics, but do not at all look like human beings are likely to be excluded from the denotation of man;

(iii) these characteristics would not be considered as fundamental, even if they be universally accompanying characteristics.

5. 'Man is the rational animal.'

This definition suggested by Aristotle is preferable to the preceding ones because of its fundamentality. Rationality includes capacity to reason and presupposes the ability to form concepts, which lead to having aesthetic experiences and sense of guilt etc. But still this definition may not be considered satisfactory, since Mongoloid idiots who are less rational than

chimpanzees would be counted as man because of their appearance while the chimpanzees cannot be counted as such.

These difficulties have led to the consideration whether a biological definition of man describing the appearance is possible. Such a definition would enumerate a number of fundamental physical features, and an animal having a certain number of these would be reckoned as a human being though the other features be lacking in it.

Thus fundamentality of the definition is a primary consideration in assessing the value of the definition.

*Q 16 How do verbal disputes arise ? Give examples and suggest how they can be resolved.*

*Ans. :* It is not difficult to define technical terms, which generally have a precise meaning stipulated by the person coining the terms, e. g., 'triangle', 'circle', etc. The familiar words of our language, which we use everyday, e. g., 'Chair', 'cat' 'beyond' 'space' etc. are most difficult to be defined by equivalent words, though we do not have much practical difficulties in correctly using them. Verbal disputes arise with regard to such words, since we do not use them with any clear and precise meaning.

A tree falls in the forest and nobody is there to hear it. Is there a sound ? A verbal dispute may arise in answering this question. But if 'sound' has been used in the sense of sound-waves, obviously the answer is 'yes'. And if 'sound' has been used in the sense of sound-sensation or experience of sound, again obviously, the answer is 'no'. Clarifying the meaning of 'sound' resolves the dispute.

Verbal disputes can be resolved by stating clearly the meaning of words used. But factual disputes cannot be resolved thus. Investigation of the concerned facts is necessary to resolve such disputes. If a dispute arises as to whether more than 50% of the mangoes of this tree are ripe, then it can be resolved only



by counting the mangoes of the tree and agreeing on an exact definition of the word 'ripe'.

### Examples of Verbal Dispute :

1. A squirrel is climbing on one side of a tree trunk and a man, who is on the opposite side, is trying to see the squirrel. When the man moves round the tree, the squirrel also moves and he is never able to see it. Does the man go round the squirrel or not ?

If the practical meaning of 'going round' be taken as to be successively on the north, the east, the south and the west of the squirrel, then undoubtedly the man goes round the squirrel. But if 'going round' means being in front of the belly side, the right side, the back side, the left side and the belly side again of the squirrel, then obviously the man does not go round the squirrel in this sense. He does not go round the squirrel thus, since the belly side of the squirrel always remains towards the man because of the compensating movement of the squirrel.

2. When can a person be said to be travelling in the same train as the one he travelled previously ?

The sets of cars may not be the same, but still the train is said to be the same. If the labels be disfigured or removed or some other labels attached to the cars by some miscreants, still it is said to be the same train, with no labels or wrong labels. It is the same train as long as the name-giving authority, in his official capacity, retains the name. It becomes a different train, if he, in his official capacity, changes the name.

If we do not realise this, we may go on arguing taking sides and can come to no agreed conclusion.

Sometimes, a mere verbal dispute appears like an insoluble mystery in the nature of things. But if verbal disputes be carefully distinguished from factual ones, we do not have even to make any empirical investigation to resolve them. We specify precisely the meaning of the words used and there is nothing to dispute about.

Some questions, because of their wording, are confusing and may lead to dispute about the correct answer. It is not clear from such questions whether the questioner is seeking information about the things concerned or about the words used. 'What is.....?' and 'What is the meaning of.....?' are questions of this nature. 'What is the nature of.....?' questions are generally requests for stating defining as well as important accompanying characteristics. 'What is the essence of.....?' question is usually a request for the defining characteristics, though sometimes it is prompted by a wish by the questioner to prefer some characteristics to others. In such cases, if a demand is made on the questioner as to what exactly he wishes to know by the question, then usually there remains nothing to quarrel about.

*Q. 17. Write notes on :*

- (a) Real definition
- (b) Denotation
- (c) Proper name
- (d) Class name.

*Ans. :* (a) *Real definition* : Stipulative and reportive definitions are concerned with the meaning of words. Some people claim that besides them, there are the real definitions, which define the thing. This claim, however, is not justified, because if the meaning of 'definition' is to remain precise, it should be concerned with words and phrases and not with things or concepts.

Chemical analysis of things and conceptual analysis of ideas are processes which should not be supposed as the definition of things and ideas.

(b) *Denotation* : Denotation of a word is the thing or things to which the word applies. 'The Earth' applies to the planet we live in. So this particular planet is its denotation. 'Man' denotes Ram, Sita, John, Mary etc. to which it is applicable. Similarly, 'tree' denotes each and every thing to which the

word 'tree' is applicable. Thus the total denotation of a word includes all the things of past, present and future to which we would apply that word.

(c) *Proper name*: A proper name is given to one individual thing. 'Delhi' is the proper name of a city. Ram, Sita, John, Mary etc. are proper names of particular human beings. But the same proper names may be given to different individuals. Thus 'Sita' may be the proper name of several girls, 'Fido' may be the proper name of several dogs. But still they are proper names of each individual bearing the name. They cannot be taken as general names of the type, 'man', 'dog' etc.

(d) *Class name*: 'Man', 'dog', 'city' etc. are class names. In the case of each of these words, there is a set of common characteristics, without which an individual cannot bear that class name, i.e., it cannot become a member of that class. 'Fido' is a proper name of an individual, but the class of Fidos is, of course, a class and not an individual, the basis for membership in this class being the characteristic of bearing the name Fido.

Some proper names, in course of time, come to be used as a class-word signifying some characteristic. 'Kalidas' was the proper name of a great poet and author of Sanskrit dramas. The word has come to symbolize poetic genius and we may speak of a writer as a Kalidas. In the latter usage, the word 'Kalidas' is not a proper name. But if a new born baby is named 'Kalidas' by his parents, it would be a proper name. Similarly, 'Dunkirk' has come to designate heroic defeat and 'Quisling' designates being a traitor, though these words were originally proper names.

All the individual things could be given proper names, but we do not do so. A pet bird may have a proper name. But 'bird' is a class name. Similarly the different species of birds, e.g., 'crow', 'sparrow', 'robin', 'wren' etc. are also class-names. These are not denotations of 'bird' but classes of denotation of 'bird'.

*Q 18. What is the difficulty in defining words with the help of denotation ?*

*Ans. :* Sometimes definition of words are given with the help of denotation. e.g., 'Ram, Sita, John, Mary etc. are men', or with the help of classes of denotation, e.g., 'Crow, Sparrow, Robin, Wren etc. are birds'. Definition of 'man' and 'bird' given thus may give us some idea as to what these general words mean provided we know the meaning of the examples given. But such a partial list or even a complete list of the members of denotation or classes of denotations may be misleading, because we may not know why they are considered to be the members of denotation or classes of denotation of these general words. In the case of 'bird' for example, we may suppose that perhaps the characteristic of flying is what makes the thing a bird. But bats are not birds, though they fly and ostriches are birds, though they do not fly.

If however, we know the defining characteristics or what the word designates, then we know exactly what the word means and can determine whether something is to be included in the denotation of the word or not. If two words have the same designation, they must have the same denotation. But if two words have the same denotation, they may still have different designations. 'Planetoid' and 'Asteroid' have the same designation and they have exactly the same denotation. On the other hand, 'Man' and 'mortal man' have the same denotation, but the designations are different. If animality and rationality be the designation of 'man', the designation of 'mortal man' is animality, rationality and mortality. Some words designate, but have no denotation, e.g., unicorn, centaur etc. Proper names, on the other hand, denote, but designate nothing. Any proper name may be given to anything irrespective of its characteristics. So there is no one to one relation between having a denotation and having a designation.

*Q 19. Explain the need for general words. How do we form them ?*

*Ans. :* General words are necessary in a language, because



it is impossible to give proper names to every individual thing. characteristic, relation, action etc. Every individual is different from every other individual, but many of them are similar enough to be given the same general name. To indicate the similarity among things, their common characteristics, we have some general words. 'Chair', 'house', 'man', 'above', 'red', etc. are such general words. It should not be assumed, however, that two things covered by the same general word are identical. One banker differs from another, one star differs from another. Even the same thing is undergoing changes every moment. The world is not composed of static types; but language has to use static words.

We get general words by noting similarity and dissimilarity of things and classifying them with a name.

No two things in the universe are exactly alike and no two things in the universe are completely different. Theoretically, we may form a class of any two things, e g., a thought and a sandpile can be put under the same class 'temporal entities' or 'what is thought by me now'. Again, any two things can be put under different classes by noting their difference. Of two marbles of the same size, weight, make, colour etc. one may be on the left of the other and this difference enables us to put them in different classes, viz, 'class of being on the left of something' and 'class of being on the right of something'. It is possible to make the criteria for membership in a class so specific that the class contains only one member. In that case, the class names would be as numerous as when all things have proper names. In practice, however, we do not form classes as above. We rather use inclusive class words like, 'cow', 'dog', etc. and then subdivide them into lower subclasses like 'Jersey cow', 'Alsatian dog' etc. or bring them under higher classes like 'mammal', 'animal', 'organism' 'physical thing', 'existing thing' etc.

Q. 20. *Are there natural classes of things? How do we name, if we discover a new class of things?*

Ans. : Our classifications depend on our interests and what

we consider to be convenient in the recognition of similarities and differences of things. So the same objects would be classified differently by different people for different purposes. The classification of houses in a city by the architect, by the municipal authorities, by the fire department, by the revenue department etc. would differ, because their aims are different. We have as many possible classifications as there are common characteristics and their possible combinations. However, we think only those classifications, to which we are accustomed, to be natural, inevitable and correct; but it is a mistake. Classification is a matter of convenience and need. In nature, of course, we find certain regularly recurring combinations of characteristics and it is useful to form classes under the guidance of nature giving them names as 'dog', 'cat', 'crow', 'fish', etc. But it is we, who make the classifications, and if we like, could select different groups of common characteristics as the basic and have a different classification. In fact, we have given some names to possible combinations of characteristics, e.g., 'centaur', 'dragon', 'unicorn' etc. So classes may be said to be man-made, since the act of classifying is done by human beings and it depends on their interest and need. Classes can be said to be also in nature, since we find that groups of characteristics are found together in nature and are common to many individuals, waiting as it were to be classified and given names.

Sometimes extending a classification becomes necessary. If we find a new class of things, which is similar to a class for which we have a name, but not exactly similar to it, then we have two alternatives. If we consider the similarity to be more important, we extend the old name to include the new class and if necessary, qualify it by an adjective to distinguish this new group from the rest of the class, e.g., Albino crow, Water-lily etc. Here the differences are obscured. In the alternative, if we consider the difference to be more important, a new name is given to the new class, e.g., Zebra. In this case, the similarities between Zebra and Horse are obscured. Usually, classification is done in such a way that the entire system of

classification is not disturbed while incorporating a newly discovered class of things. In chemistry two elements having the same atomic number but different atomic weight are called 'isotope' of each other, so that the chemical properties of one is predictable from that of the other.

*Q 21 How are denotation, designation and connotation connected ?*

*Ans. :* Definition is given by what the word designates. However, some words are not easily definable, because we cannot agree on their designations or defining characteristics. If there be agreement on their denotations, it provides a basis for discussion in order to ascertain the defining characteristics. So definition by denotation has some importance, in spite of its disadvantages. The definition of 'Romantic poetry' is given differently by different scholars, though they would agree, barring border line cases, on the poems that should be called romantic. The definition of philosophy also presents similar difficulties. But in any case, an all agreed denotation does help in determining the designation in non-controversial fields.

These days the word 'connotation' is used not in the sense in which J. S. Mill used it. Mill used the word 'connotation' to mean what is said these days to be the designation of the word. Now-a-days the word 'connotation' is used in the sense of associations in the mind of people while using certain expressions. Thus for example, 'snake' designates the characteristics of being legless and reptilian; it denotes all the individual snakes, but it connotes the characteristics of being slimy and revolting. Similarly lion connotes bravery and fox connotes craftiness. The designation of 'intellectual' and 'egghead' is same, but while the connotation of the former contains a feeling of regards, the connotation of the latter contains a feeling of contempt. The connotation of a word may vary from person to person, but some words, e.g., snake, fox etc have almost the same connotation for all the users of these words. Two words

having the same meaning, usually differ in their connotation, i.e., the suggested range of thoughts, images, attitudes and feelings etc and thus we rarely find two exactly synonymous words in a language. Words of our day-to-day life are rich in connotation. The only words that may lack connotation are the scientific or technical terms.

Q 22. Does the connotation form a part of the meaning of the word ?

Ans. : Generally, connotation, even if universal, is not taken as a part of the meaning of the word. A clear distinction is made between the *semantics* and the *pragmatics* of a word. Semantics deals with the meaning aspect of a word and pragmatics deals with the effect that the word has on the speaker or hearer. So connotation which is concerned with the pragmatics of a word has nothing to do with its meaning. But some philosophers have taken different kinds of connotation as different kinds of meaning of the word. The following are the three main types of connotation which have been called as meaning by these philosophers

1 *Pictorial Meaning*: The 'pictorial meaning' of a word is said to consist of the mental picture or the image which the word evokes in the mind. Some words, e.g., 'elephant', 'red' etc. do arouse such images in the minds of some people who hear or read these words. But many people do not form any mental picture of many words though they understand their meaning all right. Further, the mental pictures may vary from person to person and they are the *effects* rather than the meaning of the words. So mental pictures cannot be taken as a part of the meaning of words.

2. *Poetic meaning* : Sometimes, a distinction is made between the primary meaning and the secondary meaning of words and phrases. It is said that poetry is concerned with the secondary meaning rather than the primary meaning of the words used in it. The primary meaning is what the words designate and the secondary meaning is what the words connote.



Now obviously there is a difference between the poetic line 'Canst thou not minister unto a mind diseased?' and the prosaic line 'Can't you help a lunatic?'. Some would hold that this difference is the difference in the meaning of the two sentences. Others would hold that the meaning of the two sentences is the same, but the effects are different. The former is much richer in aesthetic charm.

3. *Emotive Meaning* : The emotive meaning of a word is said to be the favourable or unfavourable attitude and feelings which the word evokes in the mind of the bearer or reader and it is distinguished from the cognitive meaning or the definition of the word. The emotive meaning is not the same as the secondary meaning but covers only a part of it, since it is concerned with only the attitudes and feelings etc. and not with the images or mental pictures which are included in the secondary meaning.

Whether emotive meaning be considered as part of the meaning proper of the word or as only its effect is a question which has aroused much discussion.

In the case of some words, it seems the attitudes and feelings aroused in the hearers and even the intention of the speaker are irrelevant to the meaning of the words. As for example, 'sea', 'conservative', 'liberal', 'German', 'Communist' etc. may arouse favourable feelings in some and unfavourable feelings in others; but these do not affect their meaning. In the case of some other words like 'kraut', 'stool pigeon' etc., the emotive meaning seems to be a part of their cognitive meaning. Nobody would use the word 'Kraut' for 'German' or 'stool pigeon' for 'informant for the police', if he has no unfavourable attitude towards the concerned person's behaviour. Very often, pairs of words differ in their emotive meanings because of some difference in their cognitive meanings. 'Horse' and 'Charger' differ in their emotive meanings, because an old weak horse is no doubt a horse, but surely not a charger. Similarly, 'compromise' and 'appease' differ in emotive

meaning, because a compromiser would never sacrifice the fundamental principles, while an appeaser would do this to come to terms with the opponent.

*Q. 23. What is persuasive definition ? What defining characteristics would you state for philosophy, if you were to give a non-persuasive definition ?*

*Ans. :* Persuasive definition is an attempt on the part of a speaker at redefining a word and persuade people to accept it taking advantage of its emotive meaning. Suppose, the word 'cultured' has the cognitive meaning 'acquainted with the arts' and has acquired a favourable emotive meaning 'being considered as a mark of esteem'. A speaker, who wishes people to cultivate science and technology, may give a persuasive definition of the word by remarking 'True culture is not acquaintance with the arts but with science and technology'. Words, of course, have conventional meaning, not true or false meaning. But because of the emotive meaning of the word which remains constant, some people may accept the change in the cognitive meaning, which the speaker intends them to do. Similarly, the unfavourable emotive meaning of a word may be utilised in giving a persuasive definition. A dishonest cruel hearted-man may be described as a 'real bastard'. Here 'bastard' is not being used in its conventional meaning, i. e., illegitimate offspring, but in the sense of a despicable character.

Many words, specially of controversial subjects like politics, religion, morals, art etc. are constantly subjected to persuasive definitions.

**The definition of 'Philosophy' :**

The word 'Philosophy' has been subjected to many persuasive definitions, because different groups of philosophers have sought recognition of their own enterprise as philosophical excluding those of others from its scope. An analytical philosopher is likely to identify philosophy with 'conceptual analysis'

and a Speculative philosopher may define philosophy as the systematic interpretation of 'experience' keeping the meaning of both 'interpretation' and 'experience' vague. Bertrand Russell, therefore, jokingly remarks, "Philosophy is that which is studied in philosophy departments in our universities and colleges and it is "the systematic abuse of terms deliberately devised for that purpose".

The subject matter dealt in philosophical circles by recognised philosophers is multifarious. The techniques, employed in acquiring knowledge recognised as philosophical by different groups of philosophers, are diverse. So any attempt at a definition of 'philosophy' is likely to be considered as a persuasive definition of the word 'philosophy'. However, the following may be considered to be some of the principal defining characteristics of philosophy by an impartial student of philosophy.

- (i) It is concerned with the clarification of our ideas.
- (ii) It deals with issues and problems of the highest generality and so transcends the limits of the special sciences.
- (iii) Philosophical assertions are supported by reasoning. Assertions made on the basis of authority, intuition or faith are hardly recognised as philosophical unless justified by reasoning.
- (iv) It carries investigations on the foundations and pre-suppositions underlying every other subject matter.

The main topics which philosophy deals with are (i) Metaphysics or theory of reality (ii) Epistemology or theory of knowledge (iii) Axiology or theory of value.

*Q. 24. What is Ostensive Definition? Are there words that can be defined only ostensively?*

*Ans. :* Ostensive definition is explaining the meaning of a word, not with the help of other words but by non-verbal means such as pointing. It connects words with things. It is the

most fundamental kind of definition, without which no other kinds of definition could even get started

Children learn the meaning of words by ostensive definition. The mother utters the words 'table', 'chair', 'desk' etc. and points out to things while teaching the baby the names of things. The similarity of these things may at first be confusing. But in course of time when the child sees several things having the same name and similar things having different names, by a gradual process of abstraction, he learns to distinguish the different names. Even as adults we can learn more accurately the meaning of many words not with the help of its dictionary definition, but by ostensive means. A golf player, for example, knows the distinction between 'slice', 'hook', 'divot' etc., though perhaps these words were never verbally defined for him. Thoughts, emotions and acts of willing etc. cannot be directly pointed out, but we assume that their manifestations are same in different persons and can teach the meaning of these words to children when they exhibit appropriate behaviour. The meaning of many abstract words, e.g., 'change', 'again' etc. is also learnt ostensively by a gradual process of repetition and abstraction.

If words be defined by other words and these latter words again by other words, then we would be caught up for ever in the circle of our own words and can never reach the world of things. So some words at least must be defined ostensively so that language has correspondence to things and events of the world. But sometimes the question is raised as to whether there are indefinable words. Taking the meaning of definition broadly, i.e., indicating the meaning of words by any means whether verbal or nonverbal, all words of the language must be definable or else they cannot be words of the language at all. However, if this question means whether there are words which cannot be defined verbally, but only ostensively, then it becomes a controversial one. Some would opine that there are such words and their verbal definition is not possible, while others would hold



that there are no such words and all words are verbally definable.

The former group of Philosophers usually cite words of elementary sense-experience as examples of verbally indefinable words. They claim that words such as 'red', 'shrill', 'bitter', 'fear', 'thought' etc. are only ostensibly definable and never verbally definable. According to them, we know the meanings of these words by direct personal experience and without such experience we could not have known what these words mean. We may, of course, state the conditions under which people have such experience, their causes, their effects, their accompaniments; but these are facts about the actual experiences, not the definitions of the words. An earlier acquaintance with the meaning of the words by direct experience is presupposed in all these descriptions. It may be supposed, for example, that the word 'red' is definable in terms of wave-lengths of light, but it is a mistake. 'Red' is the word for the colour that we see. Wave-lengths are not the colours themselves, they are only correlated with the colours. They are accompanying characteristics not defining characteristics of the colour words. A born blind man cannot be told what 'red' means, though we may talk at length about the accompanying characteristics. Anybody who has seen red colour, words are unnecessary. If he has not, words are useless. Here language comes into direct contact with the world.

It is suggested by the opponents that 'red' may be defined verbally as "the one and only colour invariably associated with the wave-lengths of light - within the range 4000-7500 Angstrom units". This is not an identification of the colour red with the wave-length, but a definition of 'red'.

It is, however, pointed out that the red seen in dream is not accompanied by the wave-lengths of light. Further, it is conceivable that the wave-lengths under which we see red might change and be associated with a different wave-length and it would still be red, if it looks the way that it does. So the

wave-length cannot be a defining characteristic. Steel would still be steel, if it is no longer used for construction. So this characteristic of steel cannot be the defining characteristic of the word. So also the wave-length or the order in the spectrum cannot be the defining characteristic of 'red'. This difficulty, it is suggested, can be avoided by adding to the definition the phrase 'to the normal eye under normal conditions'. But if the structure of the eye changes or the optical laws change, then it would be normal to see the colour in the absence of the stated wave-length conditions. Consideration of these hypothetical circumstances is not irrelevant, since the defining characteristics do not break down by any conceivable variation of circumstances.

The opponents may press their point by challenging the contention that the born blind can never know what the word 'red' means. It is pointed out that he may be able to use the word correctly and accurately as any of the rest of us by feeling with his fingers the indicator of wave-lengths of a machine. If he did not know the meaning of word 'red', he could not have used the word 'red' so infallibly. But it is argued that this is not different from the blind man's ability to name the colour word 'red' when he actually feels round objects, if all round things were red and he is told about it. He would surely fail the moment the correlation is absent. The blind man has no experience of the colour quality and has no knowledge of what 'red' means to a man having eyesight. He cannot make the distinction on the basis of the things, colour, which the man with eyesight does. The ability of the man with eye-sight to distinguish the different colours on the basis of the colouredness of the things and not on their shape or any other experience presupposes a criterion which cannot be stated in words and that is why such words are verbally indefinable.

The controversy does not end here and other points are raised. So the question has remained an open one at present.

*Q. 25. How do the words of a language become vague ? Is vagueness a pervasive feature of language ?*

*Ans. :* Vagueness is the opposite of preciseness. Most of the words of our language are not generally used in any very precise sense. Words may lack precision in different ways.

1. One form of vagueness occurs when there is no precise point between the applicability and non-applicability of a word. If we are given several things of different shades of red, orange and yellow colours, we definitely declare some as red, some as orange and some as yellow, but there will be many shades in between them which we cannot so definitely say whether they should be called red or orange, orange or yellow. Many shades will remain in the 'area of indeterminacy'. Similarly, a particular speed may be considered to be slow by some and fast by others, even when due consideration is given to the context. If we know exactly the speed of a vehicle, we need not use the vague words 'fast' or 'slow', but state the speed. But if we do not know the speed exactly, we have no other alternative but to use a vague word. All 'Polar words', e.g., easy-difficult, light-dark, hot-cold, large-small etc. are vague in this sense. Any line drawn in between them to demarcate will be arbitrary.

'Between' is another vague word. If C be a point on the line joining A and B, surely C is between A and B. But difficulties start the moment we begin to consider whether a point slightly away from the straight line is between A and B or not. We, of course, use the word 'between' when C is not exactly on the straightline joining A and B, e. g., Allahabad is between Delhi and Calcutta. But once we do so, there will be no reason one by one why all the places on the meridian passing through Allahabad to the north or south be not considered to be between Delhi and Calcutta. This is the 'difficulty of the slippery slope.' Without being arbitrary we cannot stop at any definite point and proceed on and on to more and more fantastic conclusions.

For practical purposes, the Examination Board fixes up 45% as Hons. mark and debar a student from getting Hons, who secures 44% though the difference is admittedly negligible. To distinguish between 'city' and 'town', if we say that a place having more than 2 lacs of inhabitants is a city, then a place having 199999 inhabitants is a town. A child is born and it becomes a city. An old man dies and it becomes a town again.

2. Words having multiple criteria for application are vague. Equivocal words having multiple sense need not be vague, if there be a precise criterion for each sense of the word. Again, words having multiple conditions for their application, e. g., triangle (being a plain figure, being a closed figure and having three sides) are also not vague. But words having no definite set of necessary and sufficient conditions for their applicability are vague. For example, let us consider the word 'game'.

There are board-games, card-games, ball-games, Olympic games and many other kinds of games. Now, let us examine and find out the defining characteristics of games, without which no activity would be considered as a game and having which an activity must be considered as a game. We find that some games have some common characteristics, while other games have some different common characteristics. No single or set of characteristics is common to all of them, which may be taken as necessary and sufficient. 'Amusing' cannot be considered to be a common characteristic, though most games are so, because the game of chess is not so. 'Winning and losing', or 'competition' cannot be considered to be a common characteristic, though most ball games are so, because the games of patience is not so. Skill and luck is common to many games, but skill of tennis is different from skill of chess and even if this be ignored, many children games lack this feature.

We may find that several characteristics are common to some games or other; and not all but some indefinite number of



characteristics qualify an activity to be called as game, though an activity having even a considerable number of them would not be considered to be so. Thus it is realised that 'game' is a very vague word.

Not only words like 'game' are vague, but commonly used words like 'dog', 'cat' etc. are also so. In the case of 'dog', we may note down some 'doggish' characteristics, like being a quadruped, barking, wagging the tail when pleased etc. But lack of any one of them while the others are there still qualify the animal to be called a dog. So none of them are defining. Being an animal or being a mammal is of course a necessary characteristic, but this alone cannot be considered sufficient, because all animals and mammalians are not dog.

Let us suppose that four characteristics A, B, C. and D seem to be necessary characteristics of things to which the word 'X' is applied. Now we find that the presence of any two or three of them in the absence of the others also enables us to call the thing 'X'. Thus none of the four characteristics is defining.

Here the following points are well worth noting :

(a) The absence of all the four characteristics disqualifies the thing to be called as 'X'. But none of them is indispensable. This is called the 'quorum feature of language', because it is like the quorum requirement of a meeting.

(b) There is no definite quorum number in the case of words. We cannot definitely say what percentage of the total number of characteristics need be present for the word to be applicable.

(c) In the case of many words, e. g., 'neurotic' we are not sure also of the total number of characteristics of which a quorum number of characteristics should be present in order to enable us to apply the word.

(d) The characteristics do not carry equal weight. Some may be considered more important than many or some others.

taken together. For example, to apply the word 'intelligent', inventiveness carries more weight than memory.

(e) Some characteristics vary in degree and the higher the degree, the more the justification for applying the word with confidence, other characteristics remaining the same. But we cannot definitely say what degree carries what weightage in mathematically precise term.

This sort of 'vagueness' is a pervasive feature of language and even the scientific terms, which are supposed to be well defined, are not free from it. 'Gold', for example, is supposed by the scientists to have some definite necessary characteristics like its atomic number, its atomic weight, its colour, its melting point, its degree of malleability, its capacity to produce certain spectral lines, its capacity to be chemically combined with some elements and not others and so on. Some chemists would consider its atomic number alone to be sufficient enough to define it. Others would consider all the above characteristics to be defining and if a substance lacks even one of them, would not consider it to be gold. So far these characteristics have been found together. But we do not know whether the same word would be applied to a substance if it lacks some of these or has some unusual characteristic along with some of these. We do not know whether we would call an animal cat or human being if it looks like a cat but speaks like a human being. We have no ready rules for all imaginable possibilities. Some possibilities we may foresee and can frame rules for them. A man who lives for thousands of years or taller than a palm tree or shorter than one foot, we may say, would be still called a man. But an animal who speaks like a man would not be considered as a man. But there are other imaginable possibilities and we cannot make provision for all of them. In short, it is not possible to define words like 'gold' or 'cat' or 'man' with absolute precision blocking all doubts under any circumstance. Nearly all words of our daily life are vague in this sense. Certain mathematical

terms, however, e.g., 'triangle', 'plus', 'cosine' etc. are free from such vagueness.

3 Defined words remain vague, if the words with which they are defined are vague. We define the word 'X' in terms of the characteristics A, B and C, if any of the characteristics A, B and C be vague, then naturally 'X' remains vague. Suppose we define 'inhabitant of a community' as a person who resides and works within the boundaries of the community. Here 'residing' and 'working' remain vague, because we do not know whether we should apply these terms in the case of a man who stays as such only for a short period every year and works as a medical consultant. Now, 'residing' and 'working' may be defined, but the words in their definitions may again remain vague and so on. A dog is a mammal of a certain kind, but the meaning of 'mammal' must be clarified and the words used for this may be in need of clarification and there is no end to this process. In some cases, we ultimately may rest on ostensive definitions. But ostensive definitions in most cases are imprecise, because pointing of instances is not exhaustive and the exact boundary lines are vague.

Thus vagueness is a pervasive feature of every natural language. A few mathematical and scientific technical terms may be made more or less free from vagueness. We may invent an artificial language with a set of primitive terms and define all other words of that language with the help of this set of terms. But it will be of no use in the clarification of meaning of the words of any living language.

**Q. 26.** *What is a sentence ? How is it related to proposition ?*

**Ans. :** A sentence is a combination of words. But any combination of words does not give a meaningful sentence. The meaning of a sentence depends on the use to which the string of words is put. The meaning of words in the sentence does not guarantee the meaning of the sentence.

A sentence in English language has at least a subject and a verb, whether explicitly stated or implied. 'Reth mamboi selehu' lacks both word-meaning and sentence-meaning. 'Run very eat and' has no sentence meaning, though every word of this combination has a meaning. 'The sun rose' is a sentence. It contains a subject and a verb and it has a meaning. A meaningless combination of words or nonsensical syllables is not a sentence.

*Sentence and proposition* : A proposition is defined as 'anything that is true or false.' It is the meaning of a sentence. 'Delhi is larger than Cuttack' and 'Cuttack is smaller than Delhi, are two sentences but they express the same proposition. 'He rents the house' is a sentence, which expresses two propositions, since it may mean his renting the house to some one or from some one. Sentences are vehicles of propositions and propositions are meaning of sentences. 'Statement' on the other hand means either a proposition or a sentence. Since 'proposition' is usually defined as what can be true or false, only assertive sentences can be taken as propositions. The following non-assertive sentences cannot be said to be either true or false. So they are not propositions, though they have some meaning.

(i) Questions—'What is the time ?'

(ii) Imperatives—'Shut the door.' 'Let us leave the college premises.' In such cases, however, there are presuppositions which are propositions, viz, 'The door is open, and 'We are in the college premises'

(iii) Exclamations—'Oh !' 'What a day !' As such they are not considered to be even sentences. But some exclamations like 'What a sunny day it is !' imply propositions. In this case, the assertion, i.e., the proposition is 'It is a sunny day', which is either true or false.

*Q 27. What are the points of similarity between word-meaning and sentence-meaning ? What are the criteria for sentence-meaning ?*

*Ans. :* Sentence-meaning has many points of similarity with word-meaning.

(1) A sentence as well as words may be ambiguous because of (i) an ambiguous word in the sentence, e.g., He went to the *bank* (ground near river or establishment for custody of money). This is called semantic ambiguity. Or (ii) an ambiguous ordering of words, e.g., Ram gave him *twice two and three* rupees (Rs. 7/- or Rs. 10/-) This is called Syntactical ambiguity.

(2) Sentences, like words, can be vague because of (i) a vague word in the sentence, e.g., Jones is bald (how much bald is not clear); or (ii) lack of specificity, e.g., We must take steps to meet this emergency (what specific steps has not been made clear).

(3) Sentences as well as words may have secondary meanings. 'The queen will live longer than her children' suggests but does not state that 'she will lose all her children.'

*Criteria for sentence-meaning*—Meaninglessness of a sentence should be distinguished from the falsity of the sentence. A meaningless sentence is not a proposition at all. It cannot be either true or false e.g., Saturday is in bed. A false sentence is necessarily a meaningful sentence and is a proposition, e.g., 'Delhi is the capital of China'.

Philosophers differ in their opinion on the question as to what makes the sentences meaningful. 'God exists' 'God created the world'—Such theological statements have been treated by some as meaningless, by some as meaningful but false, by some others again as meaningful and true.

Let us examine the following points in this context.

### 1. Imaginability :

*The sentence is meaningful, if we can imagine the situation described by the sentence.* 'Pink snow', 'unicorn' etc. are not real existing things. But we can imagine them. So sentences containing them are not meaningless on account of these words. The sentences are meaningful, but false.



It would appear, however, that sentences describing situations which cannot be imagined are none the less meaningful. Forming images and knowing the meaning are not same. We cannot form images of a 'million-sided polygon', but we understand its meaning. No images or different kinds of images in different persons would arise, when we hear the sentence 'Honesty is a desirable quality.' But surely it is a meaningful sentence.

## 2. Describability :

*The sentence is meaningful, if we can describe the situation exemplifying it.* 'Ectomorphs are mendacious'. This sentence may appear as meaningless to many, but when we explain it by using other words, viz, 'Some persons who remain thin-bodied because of some embryonic abnormality become liars, then the sentence is meaningful.

It is, however, not possible to describe the exemplifying situation with equivalent words, when the original sentence contains words which are only ostensively definable or have no synonyms, but the sentences are none the less meaningful. Further, this criterion would make even obviously meaningless sentences meaningful, e.g., 'Saturday is in bed' is described as 'The day after Friday is in bed'.

## 3. Truth-Conditions :

*The sentence is meaningful, if we can state under what conditions it would be considered true :* 'Water flows uphill' is false but meaningful, because we know the conditions under which it would be considered true, i.e., if water is poured on a part of the hill, without flowing towards the foot of the hill it runs towards the top

This criterion of meaningfulness of a sentence would even render obviously meaningless statement meaningful. 'Saturday is in bed', according to this criterion may be made to appear as meaningful, since we can state the truth-condition to be 'Saturday being in bed'.

#### 4. Knowing what it is like :

*The sentence is meaningful, if we can know what it would be like for it to be true : 'Snow is pink' is false, but meaningful since we know what it would be like for snow to be pink. If we turn our eyes on the snow falling and see that it is pink in colour, then it would be true. Similarly, 'Elephant flies', is false, but meaningful, since we know what it would be like. It would be a true statement if elephants behave like birds soaring in the sky.*

This criterion is similar to the criterion of describability. If we can cite a similar happening with the situation stated in the sentence, then it would be taken as meaningful. But some admittedly meaningful sentences may not satisfy this condition well, if they are about unique situation. But 'Saturday is in bed' may satisfy this condition, if we say that the situation is similar to 'Friday being in bed'.

*Q. 28. What are the Criteria of meaninglessness ?*

*Ans. :* The following criteria of meaninglessness do not cover all cases but are worth mentioning, since they eliminate at least some cases of meaninglessness.

#### 1. Meaninglessness outside a given context :

Words are used within some context and are meaningful in their literal sense only within that context. Above, below, up, down, higher than, lower than etc. are words which are used literally in the context of spatial relation and have reference to the centre of gravity of some material body. So these words and consequently the sentences in which they occur become meaningless outside this context. If we be in a portion of space millions of light years away from the earth, it is meaningless to say that we are above or below the earth. Nothing can be literally above the universe, because the universe includes all space. Further, these spatial terms cannot be meaningfully used where there is no question of spatial relation, e.g., This object is above time or above number 2 or above trangu-

larity or above aboveness. Meaning is given to words and is not inherent in them. So we cannot say that sentences of the above type have too profound a meaning which surpasses our understanding. They are nothing but meaningless.

'Large' is a comparative term. It cannot be used as an adjective of positive degree without explicitly or implicitly comparing with something else. It is also a spatial term. So 'this is larger than brevity or larger than largeness' is meaningless. Similarly, the preposition 'between' is meaningful only in the situation when something is midway between two other things. Its use outside this context is meaningless.

'Motion' is used for change of position of something with respect to something else. With respect to the surface of the earth, the train moves, but the mountain does not. But the earth itself is moving with respect to the sun. So the mountain may be said to be standing still with respect to the earth, but in motion with respect to the sun. Thus without a reference point, any talk about motion is bound to be meaningless.

It should be noted, however, that all the words discussed above may have figurative uses, which the above discussion does not cover. Further, we may stipulate new meanings to the words and can extend their uses to other contexts, if we so like.

## 2. Category-mistake :

Everything belongs to some categories or broad classes and it is meaningful to talk about that thing as having any characteristics of the categories to which it belongs. A paper weight belongs to the categories of shape, size, weight, colour, make etc. So we can meaningfully talk about it as of cubic shape, each side being 8 cm, weighing 100 grams, of red colour and made of plastic etc. It will be meaningless to say that it is slow, intelligent, carnivorous etc. because the paper weight does not belong to the categories that have these characteristics. It is not a living being that moves, thinks and eats.

A smell can be acrid, pungent or stale etc., but cannot be sweet, sour or bitter. We only hear sounds, cannot see sound though of course the corresponding sound-waves can be seen through an oscilloscope, which shows something visual.

'The number 7 is blue this morning', 'Quadruplicity drinks procrastination', 'Quadratic equations go to horse races' are some of the examples of category-mistakes. Numbers are not physical objects but timeless entities. So number 7 having a characteristic of physical things existing in time is a category mistake. Similarly, Quadruplicity and procrastination being properties cannot drink like living beings or be drunk by anybody. Quadratic equation, again, being a mathematical entity cannot have the characteristic of an animal. So these statements are meaningless. They can be neither true nor false. Their negations, e.g., 'The number 7 is not blue', 'Quadruplicity does not drink procrastination' are also equally meaningless. If the affirmative sentences would have been not meaningless but merely false, their contradictories would have been true.

It is proposed here that by detecting a category-mistake, we declare the statement to be meaningless. But in some cases, the fact seems to be that by realising a statement to be meaningless by some other criteria, we know that we have committed a category-mistake. Ankle, brain, liver are all parts of the body and appear to belong to one category. But while spraining an ankle carries meaning, in spraining the brain, the meaning is strained and spraining the liver is clearly meaningless, because we cannot imagine the state of affairs here. So we say, 'We have committed a category-mistake. Liver is not the type of thing that can be sprained. 'He smoked a cigarette and drank a lemonade' is meaningful; but 'he smoked a lemonade and drank a cigarette' is meaningless. We are committing category-mistakes. 'She lay on the sofa' is meaningful; but 'she lay on the candle stick' is meaningless. We are committing category-mistakes. So it would seem that we have not got a very clear criterion for deciding when do we commit category-mistakes. It is not that

category-mistake defines meaningfulness, but meaningfulness defines category-mistake. Further, category-mistake even if be a criterion, it is not the only criterion. 'Pirats carulize elatically' is meaningless, but not because of a category-mistake.

### 3. Self contradictoryness :

When we say that the object X has both the properties A and not-A at the same time in the same part, the statement is said to be self-contradictory. The state of affairs is unimaginable.

'Square circle', 'falling upwards' are examples of self-contradictory statement. With regard to such statements, some would hold the view that they are self-contradictory and meaningless; some others would hold that they are false. There are no instances, not even the possibility of ever getting instances, but they are not meaningless. Since they have a meaning, we know them to have incompatible defining characteristics, we know them to be self-contradictory. We could not have known them to be self-contradictory, if they were as meaningless as 'walking very eat aha' or 'the watch was above the universe.'

It should be noted that if self-contradictory statements be meaningless, they are not the only kind of meaningless statements. There are other kinds of meaningless statements for other reasons. Further, in many other kinds of meaningless statements, e. g., 'Saturday is in bed,' both the affirmation and the denial are meaningless. But in the case of self-contradictory statements, this is not the case. Squares are not foursided is self-contradictory, but 'Squares are four sided' is not self-contradictory but true. 'Squares are circles' is self-contradictory but 'Squares are not circles' is true.

### 4. Untranslatable metaphors :

Metaphor is a kind of skilful and forceful way of bringing out the secondary meanings of words by pointing up a surprising similarity between apparently unlike things. Poet Dylan Thomas wrote 'The force that through the green fuse



drives the flower/Drives my green age. Interpreted literally, it may be considered meaningless, but when it is paraphrased as 'The same forces that operate in the development of a flower are operating in my own growth' we not only consider the piece of poetry to be meaningful, but also appreciate the utility of metaphor as a vehicle of meaning which cannot be done by nonmetaphorical language. Metaphors are extensions of the literal usage and in some cases, e. g., 'leg of table' 'fork in the road' etc. become well established usages. But beyond an undefined limit, they become meaningless. An unusual combination of words will pass as a metaphor only when it is translatable into something meaningful, e. g., 'green age', 'rubber questions' etc. It is meaningless when it cannot be thus translated, e. g., 'green circularity', 'rubber squeroots' etc. It is clear, therefore, that criterion of meaning is already presupposed here.

#### 5. Translatability into the ordinary idiom :

Ordinary idiom is the idiom in which we communicate in our day-to-day life and understand each other. It is suggested that if an expression can be translated into this idiom, then it is meaningful. On the other hand, if an expression is not in this idiom and defies all attempts to be translated into this idiom, then it is meaningless.

This criterion could render the famous statement of Hegel 'Being and Nothing are one and the same' meaningless, because ordinary idiom does not use 'being' and 'nothing' as designative whereas Hegel is using them as such. Similarly, Heidegger uses 'nothing' as a name and 'not' as a verb, which are not done in ordinary idiom. So it is not possible to make out what he means. Ordinary idiom, however, is itself not clearly definable. 'Dogs drink water' is surely in ordinary idiom and is meaningful. But 'Quadruplicity drinks procrastination' having the same grammatical form and composed of meaningful words is nevertheless meaningless. So this criterion, to say the least, cannot be taken as a satisfactory criterion of meaningfulness.

## Knowledge

*Q. 27. Distinguish between concept, idea and impression. How do simple ideas differ from complex ideas?*

*Ans. :* Knowledge is what we get by experience and reasoning. It is expressed in propositions, e. g., Ice melts. To understand this proposition, we must know the meaning of the words in it, i. e., 'ice' and 'melt' and for that we should have concepts of 'ice' and 'melting.'

Concepts are acquired through experience. The concepts of ice and melting are acquired through outer sense-experience. The concepts of pain, pleasure, love, hate etc. are acquired through inner sense-experience. Some concepts, e. g., of God, of cause, are supposed to be innate, i. e., acquired without having the experience of any instance of them. This view is called *concept rationalism*. This view, however, is not accepted by many philosophers, who hold that all concepts are acquired through experience. This latter view is called *concept empiricism*.

Concept empiricism was defended and made famous by Locke, Berkeley and Hume, but instead of the word 'concept', they used the word 'idea'. The concepts derived through outer experience were called by Locke to be 'ideas of sensation' and the concepts derived through inner experience were called by him to be 'ideas of reflection'. Locke and Berkeley use the word 'idea' in a broad sense to mean what we get by all experiences of all sorts. But Hume makes a distinction between 'impression' and 'idea'. According to him, when somebody is having the experience, e. g., seeing a green object, he is having

a sense-impression of green. But when he closes his eyes and thinks of that impression, he is having an idea of green. So idea is a kind of a weak copy of the impression. He holds "No ideas without impression". A man born blind cannot have any idea of colour, a man born deaf cannot have any idea of sound and so on. So if we have no experience of X, we cannot have corresponding idea of 'X'. But it is pointed out that we do have ideas of golden mountain, black rose, centaurs etc. which we have never seen in reality except perhaps their pictures. The men who first drew these pictures surely had the ideas before any experience of the real objects or of their pictures. So we can have the ideas of at least some objects before we have any sense-experience of them in any form.

Locke, therefore, had to distinguish between *simple* ideas and *complex* ideas. We cannot have any simple idea, e.g., of red, round, pain, fear etc. without earlier experience. But our mind can form many complex ideas by the combination of simple ideas in different ways. The ideas of mountain, rose, etc. are also complex ideas. Similarly, the idea of God is a complex idea which combines power, intelligence, kindness etc. derived from our experience of human beings and increased in our imagination to an infinite degree. The relation of simple ideas to complex ideas is similar to the relation of atoms to molecules. No molecules without combination of atoms. So also no formation of any complex ideas about things existing or nonexistent without the compounding, transposing, augmenting or diminishing of simple ideas derived from experience.

It is difficult to prepare a complete list of simple ideas from which all complex ideas are derived. It is said that 'simple ideas are those that cannot be analyzed into other ideas.' But this criterion of distinguishing simple ideas from complex ideas raises problems which cannot be easily solved.

It is agreed that we cannot have the idea of red or blue or yellow without ever experiencing any shade of these colours. But having experienced some shades of red or blue, cannot we

imagine, i.e., have an idea of other shades of it or at least recognise them when experienced ? If we can, then some shades of red or blue are simple, while other shades are complex for us and this will differ from person to person depending on his experience. In the alternative, if we hold that we cannot imagine the other shades, then for each colour there have to be millions of simple ideas, because the number of shades of a colour is innumerable.

Again, orange being a mixture of red and yellow may be taken as a complex idea, which can be imagined before experience. But we shall face difficulties in declaring that green, which is a mixture of yellow and blue, can also equally well be imagined before experience.

In any case, however, there is no difficulty in holding that we cannot have an idea of colour having no impression of any shade of any colour. Nor can we have the idea of shape, never having any experience of any thing of any shape whatever. Having general ideas of colour and shape and some specific ideas of colour and shape by impression, we can form other specific ideas of colour and shape.

In general words which are verbally indefinable, i.e., which can be defined only ostensively are taken as representing simple ideas. A verbally definable word generates an idea which leads us to recognise the corresponding things and so in this case, the idea precedes the impression. Such ideas are naturally complex.

*Q. 30. How does concept differ from image ? When can we say that we have a concept ?*

*Ans.* The word 'idea' as used by Locke, Berkeley and Hume is ambiguous, because in their discussions on this topic, they by this word very often mean image and sometimes mean concept. Hume's rule, "If no impressions, then no ideas" is true, if interpreted as 'if no impressions, then no images'. A born-deaf man cannot have any sound impression and so cannot

form any sound image. A born-blind man cannot have any colour impression or colour image. But still it seems that they can have the concerned concepts.

Human eye is incapable of having ultraviolet impressions. No human sense-organ can have impressions of radio activity. So we do not have any images of these. But still physicists definitely have concepts of ultraviolet and radio activity, otherwise they could not have discussions on these subjects and could not make use of them appropriately. It is even possible for a man born blind to be a Specialist in the physics of colour. He, of course, would have neither any impression nor any image of colour. But he could gather a lot of information about colour by reading in Braille the pointer readings on instruments which record the wave-lengths of light and can impart to us new knowledge about colour and coloured objects. As long as the machine is not out of order, his identification of colour of objects will be faultless. Naturally, we cannot say that such a blind man has no concept of colour.

A concept is something that we have in mind and which differs from images. Let us examine the possible answers to the question as to when can we say that we have a concept.

1. We have a concept of X, when we know the definition of the word 'X'. This answer is too narrow because we seem to know the meanings of many words like 'cat', 'run', 'above' etc, but we cannot state satisfactory definitions of them. Further, sensory qualities like redness, sweetness etc. are verbally indefinable, but still we seem to have concepts of them.

2. We have a concept of X, when we can apply the word 'X' correctly. This answer is also too restrictive. People may have some concepts in mind for which no proper word is there in the language. So sometimes a new word is coined or an old word is used in a new sense to express the concept. Thus 'energy' was used in a special sense by the physicists to express the abstract concept which they had in mind.



So, in the case of some concepts at least, using the word correctly is not the precondition but consequence of having the concept.

3. We have a concept of X, when we can distinguish X's from not-X's. Thus children, even lower animals, who can distinguish between say, birds and not-birds, may be said to have the concept of bird, though they use no language. But this answer is also objected to on the ground that ability to distinguish birds from non-birds is a consequence of having earlier the concept of birds. So these two cannot be identified. Further, machines can be devised which can differentiate something from others, but they cannot be said to have concepts.

4. We have a concept of X, when we have some criterion-in-mind. This answer is not satisfactory, because we cannot exactly state what this criterion-in-mind is and how do we know whether we have in mind such a criterion or not. It would seem that for this we have to depend on our ability to distinguish X's from not-X's.

It should be noted, however, that we can have a concept of X, even when no X's exist in the world, e.g., a flying reptile larger than the elephant. It does not exist and does not have a word to designate it. But still we have a concept of it. Further, the concept of the same thing may differ. As for example, the concept of colour for a layman having eye-sight who sees the colours and for a blind man who knows the colours from the pointer readings on the wave-length-recording machine will certainly differ.

*Q 31. Are all concepts based on experience?*

*Ans. :* Since it is not plausible to hold the view that concepts are innate or the view of Plato that they are outcome of a memory of a life before birth, the view that all concepts are based on experience seems inevitable.

It is, however, difficult to show how the concepts are actually derived from experience.

We seem to have concepts of various kinds, since we understand and use the words of a language meaningfully.

In the case of sensory words, like 'red', 'sweet', 'pain' etc. we can say that we cannot have the concepts of them unless we have the corresponding experience of seeing red objects, having sweet, tastes, suffering the feelings of pain etc. and thus can have images of them.

In the case of words like liberty, slavery etc. the concepts are there without adequate corresponding images. Different people may have different images of particular things and situations, e.g., the statue of liberty or the whipping of African slaves etc. But the concept of liberty or slavery is very different from the accompanying images, if there be any. These concepts cannot be formed without experience, true, but how they are connected with exactly what kind of experience is not at all clear. Words like 'equality', 'infinity', 'implication' 'deduction' etc. also give rise to similar difficulties. The concepts are there, but the experience on which they depend is rather vague.

The concept of arithmetical number, e.g., 2, 3, 5 etc. can be said to be derived from our experience of 'corresponding number of things of different sorts and then abstracting from them the numerical aspects of things. But though we have not experienced exactly 16038542 things, still we have a concept of this number. We have concepts of all such numbers that can be imagined, without having any experience of corresponding numbers of things. Perhaps the experience here is the experience of learning Mathematics and the use of such numbers. But then the experience is surely very different from sense-experience. Concepts of words used as preposition, conjunction auxiliary verbs etc. also do not depend on any experience, but on the experience of learning a language and the rules of its grammar. Unless 'experience' be used in this extended sense,

we cannot say that 'all concepts are based on experience'. In the context of this discussion, it is clear that Hume's dictum: 'If no impression, then no ideas', to be of any value, stands in bare need of reinterpretation and re-examination.

This rule of Hume also suggests a criterion of meaning that a word is meaningful only when it is based on some sense-experience. The worth of this criterion of meaning depends on whether the thesis of Hume stands or not.

*Q. 32. What is truth ? Examine the views of truth as correspondence, as coherence and as what works. How is it related to belief ?*

*Ans. :* Truth is involved in knowledge. 'We know that Ram is tall' means : we know that the proposition Ram is tall is true. So 'knowing the proposition p' is the same as 'knowing the proposition p to be true'. A proposition may be true without our knowing it. But we cannot know it to be true, unless it is true.

A layman does not bother about the definition of 'truth', but he does correctly use the word 'true' and 'false' in his day-to-day life. 'True' is used in many senses : 'true pearl' means 'genuine pearl' not imitation; true friend means real friend and so on. But a proposition is also said to be either true or false. In this sense, truth is a property of proposition.

A true proposition is one that describes a state of affairs that occurs. A state-of-affairs is a fact or event in the world. 'Delhi is the capital city of India' is a true proposition, because it reports a state-of-affairs that actually exists. 'Mahatma Gandhi was born in India' is a true proposition, because it describes a state-of-affairs which did occur. 'I shall die one day' is a true proposition, because it describes a state-of-affairs which will occur. By contrast, a false proposition is one which describes a state-of-affairs which does not occur (did not occur in the case of a proposition about the past and will not occur in the case of a proposition about the future), So 'India is an island',

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'Mahatma Gandhi died in England' and 'I shall live one thousand years' are false propositions. False propositions describe states-of-affairs, which are logically possible, but not actual. On the other hand, a statement which is not even logically possible is not at all a proposition. e. g., Saturday drinks circularity. It is neither true nor false, but meaningless.

*Truth as correspondence* : This view is expressed as : 'A proposition is true, if it corresponds with a fact'. Suppose, I have an Alsatian dog. Then my statement 'I have an Alsatian dog' is a true proposition, because it corresponds with this fact.

The word 'fact' sometimes means a 'true proposition' and sometimes an 'actual state-of-affairs'. In the former sense, the view would be 'A proposition is true, if it corresponds with a true proposition' which is obviously useless as a definition. In the latter sense, the view becomes 'A proposition is true, if it corresponds with an actual state-of-affairs'.

Now, the word 'correspondence' is used in the sense of resemblance, e. g., the colour of a wall corresponds to, i. e., is like, a particular colour of the colour-chart. But this is not the sense in which the word 'correspond' is used in the above definition, because a proposition cannot resemble or be like a state-of-affairs.

The names of books on the library cards are also said to correspond to the books in the library. A particular name refers to a particular book and vice versa. It is only in this sense that 'correspond' is used in the above definition. A. C. Ewing says : The word 'correspondence' suggests that a judgement raises in the mind an image. If this image is like the reality referred to, then the judgement is true, otherwise not. But he also remarks that judgements need not always be accompanied by images and words are not similar to things.

So if we use the word 'correspondence' in the definition of truth, we should be clear in our mind of the sense in which we are using it.

*Truth as Coherence* : The difficulties involved in the correspondence between propositions and physical facts have led some to propose the coherence view of truth. Coherence is a relation among propositions, not a relation between a proposition and a state-of-affairs, which is not a proposition.

✓  $2+2=4$  is not inconsistent with 'Sri Lanka is to the south of India'. These two are consistent but not coherent. A number of propositions are said to be coherent, if they are mutually supporting. If a number of witnesses, who do know one another, testify independently of one another to the truth of a proposition, e. g., 'Amitabh Bachchan was at Bhubaneswar on 1. 9. 97' then their statements are coherent with the proposition and according to this view the proposition is true.

The following points on this view are worth noting :

✓ 1. What makes the above proposition true is not coherent testimony of the witnesses, but the actual state-of-affairs, i. e., Amitabh's presence at Bhubaneswar on 1. 9. 97. The truth of this proposition does not consist in the testimony, but consists in that physical fact of that place at that time. The testimony is only the evidence that the proposition is true. Further, this coherence is quite compatible with the falsity of the statement, if the witnesses mistook somebody else to be Amitabh.

✓ 2. Even if  $p$  be true because it is coherent with  $q, r, s$ , the propositions  $q, r, s$  are true either because they correspond with actual state-of-affairs (actually seeing Amitabh in the above case) or because they are coherent with other propositions  $m, n, o$ , and these in their turn to still other propositions. But somewhere in this chain, we shall have to refer to facts or states-of-affairs.

✓ 3. A group of propositions may be coherent, but still not true. A fiction consists of coherent propositions, but not true. All systems of geometry are coherent, but all of them cannot be simultaneously true of the same world.



*Truth as what 'works'* : This view may be expressed as : a proposition is true if it works. Usually, it is stated as "a true belief is one that works."

Here the word 'work' is being used in an unusual sense. A man works means he does his task. A thing works means it functions in a way that we consider normal or satisfactory, e.g., the car works means it runs, the knife works means it cuts and so on. How a belief or a proposition would work is not clear.

Suppose, my car does not work, i.e., does not run. I believe that the starter button is disengaged. I make the repair and the car works, i.e., starts running. In this case, it will be claimed that my belief was true because it worked. But it is objected on the ground that I may believe A to be out of order; I set right A. A causes B to happen without my knowledge and it might be B that caused the car to work again. The working of the car does not necessarily make my belief true.

Suppose, I believe that there are living organisms in Mars. I go to Mars and find living organisms. Then, of course, my belief has turned out to be true, because the concerned proposition described an actual state-of-affairs. We do not get any advantage but only confusions here by saying that my belief works.

*Truth and belief* : Our beliefs do not determine the truth or falsity of a proposition. I or even all people may believe (or think) that the proposition p is true, but actually it may be false. People once believed that the earth is flat, but it is false. Again, p may be true though we do not believe it to be so. The truth or falsity of a proposition is determined by reality or states-of-affairs, not by our beliefs.

In this context, it is worth noting the following points.

1. 'A proposition is false until it is proved true' and 'A proposition is true until it is proved false'. Both these state-

ments are mistaken. Actually what is meant here is perhaps 'I believe a proposition to be false until it is proved true' and 'I believe a proposition to be true until it is proved false'. But if this is meant by the propositions, still the belief here is irrational. Our beliefs should be guided by and be proportioned to the evidence. If there be no evidence at all, we should not either believe or disbelieve the concerned proposition. The more the evidence in support or against a proposition, the more the probability of its being true or false.

2. As far as I am concerned, the proposition is true. It is a misleading sentence. It may mean : I believe the proposition to be true. It may also mean : I assert that the proposition is true. The phrase 'as far as I am concerned' is added in order to interpret it one way or the other according as the proposition turns out to be false or true. It makes provision for this intellectual dishonesty.

3. 'To me the proposition is true, to you it may not be' This is, again, a confusing sentence. It may mean : I believe the proposition to be true, but you may not believe it to be so. It is clear, however, that one's believing or not believing does not make the proposition true or false.

Truth is not relative to the individual, though it may be about an individual. Ram has a headache and Syam does not have a headache. We may say that, 'I have a headache' is true for Ram but false for Syam. We should, however, remember in this case that 'I have a headache' is not the same proposition whosoever says it. If Ram says it, it means Ram has a headache and it is true in the above case. If Syam says it, it means Syam has a headache, and it is a different proposition. In the above circumstances, it is false. So it is not that the same proposition is true for Ram and false for Syam.

Assertions of truth and assertions of belief are different from each other. Ram says 'p is true' and Syam says 'p is false.' Here both cannot be correct. One of them is wrong, p cannot be both true and false. But Ram says, 'I believe p is true' and

Syam says, 'I believe p is false'. Here both of them may be correctly reporting what they believe and none of them need be wrong in reporting. But their belief has nothing to do with whether actually p is true or false.

Truth is also not relative to time or place, 'India has more than 90 crores of people'. This proposition may be said to be true in 1997, but false in 1897. But the proposition is rather vague. 'India has more than 90 crores of people in 1997' is true and is always true. But 'India had more than 90 crores of people in 1897' is false and always so. They are two different propositions and describe two different states-of-affairs. Similarly at one time 'the table is here' may be supposed to be true in the office, but false in the river bank. If we specify the vague word 'here', then we find that one proposition, i.e., at that time, 'the table is in the office' is true and a different proposition 'the table is in the river bank' is false. Thus we see that if the meaning of a sentence is completely specified, its truth is not relative to any individual, time or place, though it may be about them. Mahatma Gandhi was born on 2nd October 1869 at Porbandar was not only true on that day, but is true to-day and will remain true for ever. The States-of-affairs of that day have changed but the truth of the proposition is eternal.

*Q. 33. What are the Sources of knowledge ?*

*Ans.* A proposition may be true, though we may not know it to be so. Several ways have been suggested for knowing a proposition to be true. These are called sources of knowledge.

#### **1 Sense experience :**

The most obvious source of knowledge is sense-experience. The five external sense-organs give us knowledge of the physical things and their characteristics. The existence of physical things is primarily known by seeing and touching them.

There are, of course, perceptual errors. Sometimes we see things which are not actually there. It is a hallucination. Some-

times we mistake one thing for another. It is an illusion. All these errors are said to be due to the errors of the senses. But properly speaking they are errors of judgement. Senses only report. The sensations that we get through sense-organs cannot be mistaken, But basing on them the judgements that we make may go wrong.

Perceptual errors due to incomplete or partial sense-experience are set right by further sense-experience. Judgements based on incomplete sense-experience are realised to be erroneous and substituted by correct judgments only by more sense-experience and not by any other way. I see something and from its appearance form the judgement that it is a real apple. I touch it, smell it or bite it and realise that it is not a real apple but one made of wax. I see something and take it to be a snake. I come closer, see it in torch-light or touch it and realise that it is a piece of rope and so on.

Sense-experiences merely occur. They do not constitute knowledge. They are neither true nor false. Basing on sense-experience, when we make perceptual judgments, then only we get knowledge. The results of judgements, i. e., the propositions are true or false, not that the sensations are true or false.

Judgements are not mere reports of sense-experience but interpretations of sense-experience with the help of concepts. To get propositions from sense-experience we have to use words and know the meaning of words. And in doing so we are liable to commit errors.

Suppose, we are going out in my friend's car. The car starts running and the driver remarks that the left hand side door of the back seat is not properly locked. All of us might have noticed the sound, which the driver noticed. But he has interpreted and has transformed the sensation into a piece of knowledge. We have not been able to do so. My friend reaches out for the door and finds it properly locked. So the driver is wrong in his interpretation. The proposition is false. But then he asks us to examine the right hand side door. This time he is correct.

The right hand side door is discovered to be not properly locked.

In the case of internal sensation, there are no sense-organs. But we do get some experiences basing on which we assert some propositions about our own internal states and mental operations. "I am having a headache". "I feel unwell this morning" etc. are examples of such propositions. My having the concerned experience is the only guarantee that is needed for such propositions to be true.

The following points are worth noting about this kind of knowledge.

1. This kind of knowledge is confined to our internal states and not to external states-of-affairs in the world. If asked how I know that I have a headache, I would say that I am having that feeling and it is enough justification for stating the proposition. But it would not be enough justification to account similarly for stating the proposition that the coming winter will be severe or that I shall die next year. Feeling so and so (tooth-ache, pleasure, pain etc.) is different from feeling that so and so (some state-of-affairs is, was, or will be occurring). The former guarantees the truth of the proposition about the concerned feeling, but the latter does not guarantee the truth of the proposition about the concerned state-of-affairs. The word 'feeling' is ambiguously used. I feel a headache=I have a headache. I feel the sharpness of the knife=My external tactual experience indicates that the knife is sharp. I feel that the next winter will be severe=I have some sort of a belief that the next winter will be severe.

Feeling in the sense of belief howsoever strong is no guarantee for the truth of a proposition about the existence of any external state-of-affairs. But feeling in the sense of having an internal sensation is guarantee enough for the truth of a proposition about the existence of that internal sensation.



2. In order that my feeling X be the sufficient guarantee for the truth of the proposition 'I am in state X', X should be an *occurrent* state in my consciousness and not a dispositional state.

An *occurrent* state is one that is occurring at present, but a *dispositional* state is one that would occur under suitable circumstance. 'I have a toothache', 'I am thinking of going to the Dentist' are propositions about *occurrent* states. Feeling the concerned pain and having the experience of the concerned thinking process guarantee the truth of the propositions. But 'I am in an irritable mood to-day' and 'I love my neighbour's daughter' are not reports about *occurrent* states, but about *dispositional* states. These propositions do not simply state of what feelings I am having now, but state of what would occur if somebody annoys me and how I would behave in matters concerning the girl. My feelings in these cases do not guarantee the truth of the propositions. My claim for the truth of the propositions on the basis of my feeling may be rightly challenged by an observer, who has closely observed me and has found that my behaviour is not in harmony with these dispositions.

In matters concerning my *occurrent* states, I am the sole judge. But in matters concerning my *dispositional* states, I am not the sole judge, others may be better judges. Others may judge me to be vain or conscientious, envious of others or kind towards others, and they may be correct. My being the sole judge, however, is strictly confined to the feeling that is occurring now and nothing else besides. I can feel the pain in the tooth but not the condition of the tooth. I can feel that the leg is dead but not that the blood circulation is hampered.

*Reasoning* : Reasoning is another source of knowledge. It consists in inferring a conclusion from one or more premises. It may be of two kinds—deductive and inductive.

*Deductive reasoning* is considered valid when the conclusion logically follows from the premises, i. e., when the conclusion cannot but be true, if the premises are true. Validity

should be distinguished from truth. Propositions are true or false, but reasonings are valid or invalid. In an argument, all the propositions may be true, but still the reasoning may be invalid, e.g., the sun is bright, the earth is round;  $\therefore$  man is mortal. Again, in an argument, all the propositions may be false, but still the reasoning may be valid, e.g., circles are squares, squares are triangles;  $\therefore$  circles are triangles. The reasoning is valid, because the conclusion logically follows from the premises. To know the conclusion of an argument to be true by reasoning, we have to know that the premises are true and the reasoning is valid.

Sometimes it is remarked that deductive reasoning cannot be a source of knowledge, because we never learn anything new here. The conclusion is already contained in the premises and so it gives no new information. The conclusion, of course, does not occur in the premises, but it does follow from or deducible from them. Whether we learn anything new or not depends on the degree of complexity of the reasoning and the intelligence of the reasoner. 'All students of the College have put on white dress to-day, Ram is a student of this College;  $\therefore$  Ram has put on a white dress to-day'. In case of an argument as this, the conclusion does not seem to give any new knowledge. The conclusion is so obvious that none perhaps would contend that it tells something different from the premises. But in an argument containing a long chain of deductive reasonings, the implication is not at all obvious and to most people the ultimate conclusion does give new knowledge. So getting new knowledge by deductive reasoning differs from person to person.

In *inductive reasoning* the conclusion cannot be claimed to be as surely true as in the deductive reasoning, even if the premises be true. We may examine thousands and thousands of crows and find them all to be black without a single exception. But still the conclusion 'All crows are black' is not established to be true, but is rendered only probable. The premises provide evidence, but not complete evidence for the conclusion. Drawing a conclusion regarding *all* from the examination of *some* is

said to be Induction by simple enumeration. In this case, we feel more justified, if the instances examined are large in number.

After examining thousands and thousands of crows and finding them to be black, suppose, we draw a modest conclusion that 'the next crow we see will be black', and not the general conclusion that 'All the crows are black'. Even here, we find that the conclusion is not established. It is probable. The probability seems to increase as our observed instances increase. But still the possibility of the general conclusion rendered false by the very next crow observed remains the same.

All inductions do not always involve a passage from some things of one kind to all things of that kind. An induction may also be regarding just one thing only.

Ram killed Syam in broad day light in front of many people. Here the knowledge of the truth of the proposition: 'Ram killed Syam' is based on direct sense experience, not on inference of any kind. But suppose, there is no evidence of this type; however it is suspected that Ram killed Syam. All circumstantial evidences would lead to probability, not to logical certainty about the truth of the proposition. The degree of probability will depend on the nature and cogency of the evidence collected; but still the logical possibility of the proposition being false, by some contrary evidence remains. This is an inductive argument.

The cogency of inductive argument depends on our reliance in certain laws of nature, i.e., recurring uniformities of some natural events. Stabbed people uniformly shed blood. Blood from different parts of the body of a man uniformly is of the same type. The finger prints of a man uniformly remain the same and differ from those of others. Such uniformities render the evidence of Syam's blood found on Ram's clothing and Ram's finger prints found on the dagger used in stabbing relevant for the conclusion that 'Ram killed Syam'.

A man at the age of 20 has the experience of getting up in the morning and being alive at bed time  $20 \times 365$  times. He at the age of 90, has this experience repeated  $90 \times 365$  times. The more the instances, the more probable the conclusion. So the probability of his surviving during the day at the age of 90 is more than his surviving at the age of 20. This argument does not stand because of the other uniformities found in nature, e.g., biological laws about living organisms, their limited span of life, deterioration of the tissues of living organisms, gradual decrease of the capacity of vital functions etc.

**Reason :** Reasoning is an activity, but reason is an ability. It is the ability to think, to notice the similarity and distinction in experience, to realise the implication etc. Reason in this sense is the prerequisite of all knowledge derived through experience and reasoning.

Some propositions, called the 'truths of reason' are known to be true, though their knowledge is derivable neither by experience nor by reasoning. They seem to be not the outcome but the postulates of experience and reasoning. Let us consider the propositions : A thing is what it is: Tho contradictory qualities cannot go together.

We know that 'A book is a book'. Experience can make us know a book to be red or big or rectangular etc. It cannot make us know that a book is a book or that it cannot be both red and not-red at the same time. The inference that since it is red, it cannot be not-red depends on the truth of reason that two contradictory qualities cannot go together.

The knowledge of 'truths of reason' seems to be the outcome of reason not of reasoning.

(3) **Authority :** If we depended for our knowledge only on our own experience and reasoning, it will be very limited. Usually, the major portion of all that we claim to know depends on what we learn from authorities on the concerned subjects. Knowledge gathered on authority to be reliable requires the fulfilment of the following conditions.

1. The person whose statements we accept as true on authority should really be an authority, i.e., a specialist in the subject concerned. A specialist in mathematics need not on that ground be a reliable source of knowledge regarding history or current politics.

2. If the authorities on the same subject differ on any point we should not accept anything on that point to be true, till the matter is settled by them.

3. The statements accepted on authority should be verifiable. An unverifiable statement cannot be accepted to be true on authority. An authority on Hinduism would assert that Brahman is the Supreme God and an authority on Moham-medanism would assert that Allah is the Supreme God. Unless these be two different names of the same being, the statements contradict each other and we have no means to verify which of them is true.

4. Authority is not a primary source of knowledge. We may learn something on authority, but the authority himself must have learnt what he says by either his experience or reasoning or both. In any case, taking somebody to be an authority is at our own risk and to take that risk, we should take all possible care to ascertain that he is really reliable. In spite of all possible checks, however, the possibility of his going wrong on this particular occasion still remains and we should be conscious of that.

(4) *Intuition* : Sometimes some people claim to know something by intuition. Intuition is an indefinable experience that comes in a flash begetting a conviction regarding the truth of something. Reality or existence of intuition as an experience is unquestionable, because people sometime do have experiences that they could call intuition. But intuition as a source of knowledge, i.e., the claim that certain proposition known through intuition is true is very often challenged. This challenge, however, does not apply to cases where the knowledge is really derived by quick realisation of the implication of some



experience and faultily declared as knowing by intuition. The objections against intuition as a source of knowledge are the following.

1. One person may claim that he knows by intuition that  $p$  is true and another person may claim that he knows by the same means that  $p$  is not true. Obviously, the intuition of one of them is false, but intuition does not provide any means to decide which of them is correct. If a third person claims to have super-intuition and declares one of them to be correct, a fourth person may equally well claim that his super-intuition indicates the opposite. Thus contradictory claims of intuitive knowledge cannot be settled within the scope of intuition.

2. Even if an intuition never conflicted with another, still knowing by intuition does not explain how one knows. In this case, if at all a person knows  $p$  to be true, he does not know how he knows it to be true. Since it has no explanatory value, some philosophers would not accept as knowledge what is claimed as knowledge by intuition. Here we simply assert something as true and in support of our assertion can only add 'by intuition', which explains nothing.

Innumerable statements, the truths of which can be verified, have been found to be false, though they were claimed to be true by intuition. And even if somebody's statement by intuition invariably turns out to be true, it is doubtful whether it was known purely by intuition or not. Again, even if it be derived purely by intuition, it is doubtful whether it will be considered as knowledge or not.

The status of intuition as a source of knowledge in the case of unverifiable statements is worse, since we can never know them to be true by any other means and intuition itself provides no means to test them. Some meaningless statements have been also claimed to be true by intuition. But obviously intuition cannot render a meaningless statement meaningful, what to speak of its being true.

(5) *Revelation* : Revelation is claimed to be another source of knowledge, through which one is said to realise something to be true by means of a dream or a vision etc. Having a dream or a vision, however, does not justify the truth claim made. The truth, the knowledge, if at all, is discovered by tests other than what is provided by revelation.

"It was revealed to me by Mr. X that p" It means that Mr. X told me that p and I accept on his authority that p is true.

"It was revealed to me by God that p." Here, the revelation, perhaps, was made through a dream or a vision or a voice or a clap of thunder etc. but there is no knowing whether it was really a manifestation of God. Again, if two persons have contradictory claims, there is no way to decide which of them is correct.

"It was revealed to me through a sacred book that p". Here, also the claim is that the revealer is God, but there is no means to know that the book is really sacred revealing nothing but truth. Besides, the Vedas, the Bible, the Koran etc. all claim to reveal the truth and we have no reason to accept any one in preference to others. If sense-experience or reason justifies anything stated in the book, the truth is realised because of this, not because it is a piece of revelation. And in the case of unverifiable statements, we have no means to know that they are true.

(6) *Faith* : Claims to knowledge through faith have all the difficulties that we have in intuition and revelation. We have no means to decide through faith which faith is the right one. Faith seems to be an attitude of belief in something in the absence of evidence, and as such, it cannot be a source of knowledge. We should not confuse our feeling or attitude towards something with our knowledge of that thing.

*Q. 34. What is knowledge? State the condition that justify our claim to know a proposition.*

*Ans.* The word 'know' is used in different senses.

1. Sometimes 'know' means being personally acquainted with a person or a thing, e. g., I know Mr. X or I know that place etc. This differs from *knowing about* Mr. X or that place from other persons or from books, without meeting and talking to him or going to and staying in that place.

2. 'Know how' means having ability to perform some action, e. g., I know how to ride a horse or I know how to drive a car etc.

3. 'Know that' is used in the propositional sense of 'know' when 'that' is followed by a proposition. It is the most important sense of 'know' and is involved to some extent in the preceding two senses of knowing. Taking  $p$  to be a proposition, in order to assert correctly 'I know  $p$ ', the following conditions should be fulfilled.

(a)  $p$  must be true :

'I know  $p$ ' means 'I know that  $p$  is true.' So 'I know  $p$  but  $p$  is not true' is a self-contradictory statement. This is the objective requirement for the use of 'know'. Know in this respect differs from other verbs like 'believe', 'wish', 'wonder', 'hope' etc. I may believe or wish or hope that  $p$  is true, but, in fact,  $p$  may be false. These verbs indicate psychological states, which may be there in our mind, but they do not require that the proposition that follows them must be true.

It may be noted, however, that there are many true propositions, but we do not know them to be true. So the truth of a proposition is a necessary condition for knowing it to be true, but it is not a sufficient condition for knowing it to be so.

(b)  $p$  must be believed to be true : This is said to be the subjective requirement for the use of 'know'. 'I know that  $p$  is true, but I do not believe it', if said sincerely, is also a self-contradictory statement, since knowing necessarily implies believing.

Many propositions are true, but we do not believe them. 'The Earth is round and rotates on its axis'. It was true two thousand years before also, but people did not believe it then.

The friend of a dead soldier reports to his heart-patient mother 'the son is alive', but he does not believe it. Here he is intentionally giving a false statement.

But one cannot sincerely say *p* to be true, but still does not believe it, because sincerely saying *p* to be true implies believing it, and so it comes to 'I say and believe *p*, but still I do not believe it'.

The word 'believe'. sometimes is used in the rhetorical sense, and we say : 'I know I have won the first prize in lottery, but I cannot believe it' or 'I know the answers to all the questions, but I cannot believe that I know'. Barring such uses of 'belief', it is self-contradictory to say that 'I know *p*, but I do not believe *p*'.

It may seem that since the objective and subjective requirements of saying I know *p* are that '*p* must be true' and '*p* must be believed to be true,' knowledge can be defined as true belief. But it is not so, since all true beliefs are not necessarily knowledge.

Suppose, a poor girl believes that she will be one day married to a rich man and after five years she is actually married to a rich man. Did she know it ? Surely she did not know it five years before, it was only a lucky guess. Lucky guess is not knowledge, however confidently the guess is made. To be considered as knowledge, our beliefs must be based on reason.

(c) *There must be reason to believe* : We may guess while tossing a coin, which toss will be head and which, tail. Incidentally, some guesses will turn out to be true, but there is no reason for our belief. Here we have no knowledge. But suppose we watch carefully and come to have a formula as to how should a coin be tossed to get the head or the tail and then

can correctly tell which time it will turn head and which time tail. Here we have knowledge.

From to-night's red sunset, we predict that to-morrow's weather will be fair, it is not knowledge yet. It is only an educated guess. But on the next day, when we see the weather and know it for certain that it is fair, it is knowledge.

*Q. 35. How much evidence in support of our belief in a proposition is necessary to declare that we know it and not merely believe it? Distinguish between the weak and the strong sense of knowing.*

*Ans:* Let us examine the probable answers about the evidence for knowledge and the difficulties involved in them.

(i) If we say 'some evidence', it won't do.

If from to-night's red sunset, we predict that to-morrow will be a sunny day, we had some evidence, but our to-night's belief is not knowledge. We shall have to wait till to-morrow to get knowledge regarding the weather.

(ii) If we say 'all the available evidence', it won't do.

All the available evidence may not be enough. All the available evidence for the belief that there are conscious beings on other planets has not given us knowledge of their existence. We cannot say that we know that there are such beings on other planets.

(iii) If we say 'enough evidence to give us good reason to believe,' it won't do.

We may have known somebody to be honest for a pretty long time and would suppose that we have enough evidence to give us good reason to believe him to be honest, but the next time we may find him doing an act of dishonesty. So we did not know, we merely believed. The proposition that he is honest is not true.

(iv) If we say 'complete evidence, i.e., all the evidence there could ever be, we face difficulties,



Most proposition which we say we know, we would not know, according to this criterion.

Seeing a book on the table, we say, we know that a book is on the table. We know that the fruit detached from the tree will fall on the ground. But it is always possible to have more evidence than what we have so far for these. The complete evidence is not yet in. So according to this criterion, we do not really know. Thus, if this criterion is accepted, practically, we can have almost no knowledge and this position is embarrassing.

(v) We may say 'adequate evidence', but how much evidence is adequate remains vague and nothing but complete evidence seems as adequate to be fool-proof.

(vi) We may say 'adequate evidence for enabling us to know,' but this obviously ends in a circular definition.

In day-to-day life, we use the word 'know' as distinguished from 'believe' or 'surmise' when (i) we believe a proposition to be true, (ii) we have good grounds on which to base the belief and (iii) the belief is true. The logical possibility of the proposition turning out to be false is not taken into consideration. In this sense, I *know* that the book-case is there in the other room, from which I took a book a minute before though it is not right before my eyes now. In this sense, I *know* that I have a heart inside my chest cavity, that if I let go the pen that I am holding, it will fall, that the sun will rise tomorrow and so on. The word 'know' is said to have been used in all these cases in the *weak sense*. Here, we could imagine circumstances under which the propositions asserted as true might turn out to be false.

Contrasted with this use of 'know' there is also the use of 'know' in the *strong sense*, when I take my evidence for the truth of *p* as conclusive and refuse to admit anything contradicting *p* as evidence for its being false,

In this sense, I know that the ink bottle that I am seeing and touching exists now, that the chair on which I am sitting is here, that I have a right hand and so on. Whatever might happen afterwards, that is, the ink bottle melting into thin air, or in the next moment my experience of finding myself not sitting on a chair but standing in the garden or reliable persons declaring that my right hand is missing etc. would not convince me that I was mistaken about the ink-bottle, the chair or the right hand, in the first place.

The skeptics, however, doubt knowledge even in the strong sense of 'know'. They say that we never know anything for certain; the so-called knowledge is only of something probable, because all the evidences that we provide for the certainty of a statement are never complete and are themselves probable. All our perceptions may be hallucinatory and this possibility being there, we cannot have any claim to knowledge in the proper sense.

It should be, however, noted that even the skeptics cannot cast any doubt on the knowledge of two kinds of propositions.

(i) Propositions about my own existence and my own states of consciousness, e.g., 'I exist' or 'I feel pain'. Here we may say that no evidence of the sort required for other propositions is needed. The experience itself constitutes all the evidence needed. They are self-authenticating.

(ii) Analytic propositions that are not about ourselves or about the world at all, e.g., A book is a book. Red roses are red. These are truths in "the realm of necessity" and no evidence is needed for their truth.

## Necessary Truth

Q. (36.) Explain what is an Analytic proposition.

Ans. : Explicitly, analytic propositions are those, which are of the form 'A is A' or 'AB is A'. Thus 'Black is black' or 'Black cats are black' are obviously analytic. Such propositions are known to be true without any further investigation. We even need not bother to know what the logical subject and predicate of such propositions mean in order to realise their truth.

Some propositions are analytic, but we realise them to be so, only when we know the meaning in which the words in the propositions are used, 'A yard is three feet' is reduced to the form 'A is A', when we learn that 'yard' has been used in the sense of three feet. Similarly, 'Brothers are males' is reduced to the form 'AB is A', when we learn that 'brother' is used in the sense of 'male sibling'.

It is not proper to declare a proposition to be either analytic or not analytic, without being clear about the exact meaning, i.e., the definition of the words used in the proposition.

'All blackbirds are black birds' appears to be an analytic proposition, but it is not so. Being black is not a defining characteristic of 'blackbirds'. White blackbirds are also blackbirds, but they are not black birds. So the proposition, far from being analytic, is false.

On the other hand, 'If you study this chapter long enough, you will understand it' does not appear to be analytic.

but it is analytic, if we interpret 'long enough' as 'till one understands it'. This proposition, however, will not be analytic if we interpret 'long enough' as 'a certain definite number of times'. Similarly, 'the best boy in the class is the one who stands first' is analytic or not, according as 'best' is interpreted in terms of marks secured or in terms of conduct and character.

'Analytic' as been defined in very many ways. The two main definitions are :

1. An analytic statement is one whose negation is self-contradictory.

2. An analytic statement is one whose truth can be determined by an analysis of the meaning of words used in it.

1. Non-analytic propositions are called synthetic propositions. 'Snow is white' is a synthetic proposition. By negating it we get 'snow is not white.' It is a false proposition, but not self-contradictory. We can imagine black snow. 'Snow is snow' is an analytic proposition. By negating it, we get 'snow is not snow'. It is self-contradictory, because we cannot even imagine how something will be snow and at the same time also not snow. Similarly, 'fathers are males' becomes by substitution 'male parents are males'. By negating it we get 'male parents are not males', which is obviously self-contradictory.

2. To know whether 'snow is white' is true or not, we shall have to find out snow and see its colour. But to know 'snow is snow' we do not have to do this. Whatever snow be, if it is snow, it is snow. Similarly, no investigation of anything in the world is necessary except the meaning of words to realise that 'fathers are males', because, by substitution, the proposition becomes 'male parents are males'. Thus, no observation, but analysis of the meaning of words is required to realise the truth of analytic propositions.

The first definition states a property of the analytic proposition, and the second definition states how we know it

to be true, but they indicate almost the same denotation. So for most purposes, it is immaterial which definition we choose.

The following points are worthy of being noted in order to determine whether a proposition is analytic or not.

1. A sentence containing an ambiguous word may express an analytic proposition in one sense of the word and a synthetic proposition in another sense of the word. 'Kite is a bird' is analytic when 'kite' is used in the sense of a bird of prey and synthetic when it is used in the sense of a toy flown in wind by string.

2. If a word is defined differently by two persons, the same proposition containing the word may be analytic for one, but synthetic for the other. 'Triangle is a closed figure having three angles' is analytic for one who defines triangle in terms of angles, but synthetic for one who defines triangle in terms of sides.

3. A proposition may be considered analytic in one age but synthetic in a different age. 'Whales are mammals' was formerly considered to be synthetic. But now-a-days the mammalian characteristic is included in its definition and the proposition is considered analytic.

Kant considered only subject-predicate type of propositions and defined analytic propositions very narrowly. Only propositions of the forms 'A is A' and 'AB is A' were considered to be analytic by him. But later logicians consider many other propositions also to be analytic. As for example, propositions of the form 'Not both A and not-A' and 'If A, then A' are considered to be analytic, because their denial leads to contradictions and also because no empirical investigation is necessary to realise their truth.

*Q. 31. What is a tautology ?*

*Ans.* A proposition is expressed sometimes by a simple sentence and sometimes by a compound sentence containing



simple sentences as its parts. By using the symbols  $p, q, r$ , etc. for the simple propositions, we may get many kinds of propositional forms. Every proposition is either true or false and cannot be both true and false at the same time. But a propositional form, which is expressed by symbols, cannot be described as either true or false until we know what proposition it stands for. For example,  $p$  is true, when  $p$  stands for 'India is in Asia'. It is false, when  $p$  stands for 'India is in Europe.' If  $p$ , then  $q$  is true, when  $p$  stands for 'it is a bird' and  $q$  stands for 'it is biped'. It is false, when  $p$  stands for 'crow is a bird' and  $q$  stands for 'India is in Europe'.

A tautology is a propositional form, which always gives true propositions, whatever propositions be substituted for the symbols  $p, q, r$  etc. occurring in it. Thus 'Either  $p$  or not  $p$ ' is a tautology, because whatever propositions  $p$  stands for, the resulting statement is true. Thus when  $p$  stands for 'India is in Asia', it becomes 'Either India is in Asia or India is not in Asia'; it is true. When  $p$  stands for 'India is in Europe' it becomes, 'Either India is in Europe or India is not in Europe,' it is again true and so on. Similarly, 'Not both  $p$  and not- $p$ ' is a tautology.

'Either  $p$  or  $q$ ' is not a tautology, because sometimes it is true, e.g., when  $p$  stands for 'he is alive' and  $q$  stands for 'he is dead'; and sometimes it is false, e.g., when  $p$  stands for 'he is suffering' and  $q$  stands for 'he is dead'. He might be neither suffering nor dead, but alive and in best of health. Similarly, 'Not both  $p$  and  $q$ ' is not a tautology. In simple cases, whether a propositional form is tautology or not can be determined by reflection. But whether a complicated propositional form, involving a large number of propositional symbols  $p, q, r$  etc. is a tautology or not can be decided only by employing some logical techniques, e.g., truth table method, and not by mere reflection.

Q. 38. What are the objections to the analytic-synthetic distinction?  
Discuss.

Ans. : 1. According to some philosophers, e.g., Leibnitz

all propositions, on analysis, are found to be analytic. So analytic-synthetic distinction is based on a faulty conception.

According to them, our concept regarding anything on our first acquaintance with the thing is incomplete. It grows richer and richer as we know more and more about it. A complete concept of anything, e.g., Adam, hydrogen, brother, contains all the facts about that thing. So every proposition that we utter about the thing states nothing but what is in the concept. Thus all the propositions are analytic.

In daily life and in science, however, the concept of X is not used in such an all inclusive sense. The concept of X consists of only the defining characteristics of 'X' without which a thing cannot be called X. All other features are only the accompanying characteristics. Even without these, the thing having the defining characteristics would still be an X. Thus 'the concept of brother' contains being born of the same parents and being male. The defining characteristics of 'my brother' are being born of my parents and being male. So these characteristics are there in the concept of 'my brother'. His being tall or handsome is only an accompanying characteristic. He could have been my brother without being tall or handsome, but he could not have been my brother without being born of my parents or being a male. So 'my brother is male' is analytic, but 'my brother is tall' is synthetic. 'My brother is not male' is self-contradictory, but 'my brother is not tall' is not so.

2. Analytic-synthetic distinction is useless, because it is not clear-cut.

Many propositions, e.g., 'The best student is one who, stands first in the class', 'If you study this chapter long enough, you will understand it' etc. are sometimes analytic and sometimes synthetic. So analytic-synthetic distinction is not a clear-cut distinction.

It may be remarked that in the above examples the crucial words 'the best student', 'long enough' etc. are not clearly defined and naturally alternative definitions lead to alternative

results. But once we clearly define the words used in a proposition, there is no question of the proposition being either analytic or synthetic. It will be specifically only one of these and not the other.

In the case of unambiguous propositions, the distinction is without a doubt clear-cut. 'All bachelors are unmarried,' 'Brothers are males' etc. are obviously analytic; and 'There are two books on this table', 'Brothers are taller than their sisters' etc. are clearly synthetic.

3. In science, attempts are made to systematise all the laws and place them in a hierarchical order. Whether a particular law of this system is analytic or synthetic depends on its position in the system. Newton's laws of motion are considered to be discoveries regarding the world. In that case, they are synthetic. But in the Newtonian system, they are construed as definitions. In that case, they are analytic.

Systems in science are constructed by us. The manner in which the entire system is construed depends on the person constructing the system and the progress made in that science. In one system, in one context, some propositions are taken as definitional, i. e., analytic and others remain as non-definitional, i. e., synthetic. In other systems, in other contexts, no wonder, other propositions are considered definitional and the remaining as non-definitional. This in no way makes the analytic-synthetic distinction clumsy or confusing.

*Q. 39. Explain the different kinds of possibility.*

*Ans :* Possibility and impossibility are qualities of situations or states-of-affairs.

A state-of-affairs is said to be logically possible, when the proposition, describing it, is not self-contradictory. It is logically impossible, when the proposition, describing it, is self-contradictory. Hanuman's jumping-over the sea from Kanya Kumari to Lanka is logically possible. But the

magician's looking-glass being in the shape of a square-circle is logically impossible

A state-of-affairs is said to be empirically possible, when it is not contrary to laws of nature, e. g., travelling from Calcutta to Delhi in two minutes. It is said to be empirically impossible, when it is contrary to laws of nature, e. g., light becoming stronger as we move away from its source. Our knowledge about the laws of nature, however, is never complete and what we think to be empirically impossible at one time is realised to be empirically possible at a later age. Man's going from the Earth and residing in other planets was thought to be empirically impossible at one time. But we realise now that it is not so and therefore was never empirically impossible.

A state-of-affairs is said to be technically possible when we can create circumstances for the state-of-affairs to happen, e. g., to plant an artificial heart in human body or getting potatoes and tomatoes from the same plant. It is said to be technically impossible when we cannot create the situation for the state-of-affairs to happen, e. g., to travel with the speed of light or to create an artificial living being.

Empirical possibility does not change from age to age, since laws of nature do not change. Our knowledge about them, however, increases with the progress in science. Technical possibility does change from age to age, with the increase of our knowledge about the laws of nature and our ability to make use of them in achieving our end.

*Q. 40 Explain the relation among the different types of possibility.*

*Ans.* If a state-of-affairs is logically impossible, it must be also empirically and technically impossible. But what is technically impossible at present need not be empirically or logically impossible. Similarly what is empirically impossible need not be logically so. Taking photographs of stars millions of light years away from us is technically impossible now, but it is not

empirically impossible. A body not subject to gravitation, as far as we know, is empirically impossible, but it is not logically impossible.

We know from empirical sciences what is empirically possible. We learn from applied sciences and technology what is technically possible or impossible. But philosophy is interested in logical possibility and impossibility. Logical possibility should not be confused with the other kinds of possibilities. Innumerable statements which are obviously false may describe states-of-affairs that are logically possible, if they are not self-contradictory, e. g., colour of an object determining speed of its fall, a man living for a million years, bears changing into handsome princes and princesses and so on. These are empirically impossible, because they contradict the laws of nature prevalent in this universe, but these phenomena are possible in some other universe, where different laws prevail. So they are logical possibilities. What is logically impossible cannot be the state-of-affairs in any conceivable universe. In one sense of conceivable, it is identified with logically possible. But conceivable in the sense of imaginable is not identical with logically possible. We cannot form the image of a polygon of 1000 sides as distinguished from one having 999 sides. But surely a thousand-sided polygon is logically possible. There is obviously no contradiction in its description. So what is unimaginable by us can be logically possible. But what is logically impossible is inconceivable and unimaginable by anybody of any universe.

*Q. 41. Attempt to give a reasoned answer to each of the following five questions. (Answers are given along with the questions).*

*Q. (i) Is it logically possible for a solid iron bar to float on water ?*

*Ans.* It appears to be empirically not possible, because it violates a known law of physics, i.e., objects with greater



specific gravity than water under ordinary circumstances sink. But it is logically possible, because the proposition describing it is not self-contradictory. We can even imagine the occurrence of the phenomenon, though it never occurs in our experience.

*Q. (ii) Is it logically possible to remember something that never happened?*

*Ans:* 'Remember' in the weak sense means having a feeling of recollection irrespective of the actual happening of the event remembered. In this sense, it is logically possible to remember something that did not actually happen.

'Remember' in the strong sense means having a feeling of recollection and the event remembered being an actual fact. In the strong sense, the truth of the proposition describing what is remembered is a defining characteristic of 'remember'. So by substitution we get 'one has a recollective feeling of something that happened but that something never happened'. It is a self contradictory statement. So remembering something that never happened is logically impossible, in the strong sense of the word 'remember'.

*Q. (iii) Is it logically possible for a cat to give birth to pups?*

*Ans:* It is empirically impossible, because it violates the biological law that like produces like. But there is no logical necessity in the law.

We may think that whatever a cat gives birth to is by definition a kitten and not a pup. But it is not so. We do identify animals by their appearance and not by geneological history. If the mother has all the feline characteristics, it is a cat and if the offspring has all the canine characteristics, it is a dog. Certainly, it would be a very surprising incident, but it is logically possible.

*Q (iv) Is it possible to go from one place to another without traversing the distance in between them?*

*Ans:* If the emphasis is on the word 'traversing' then it

is logically impossible to go from one place to another, without traversing distance. Going means 'traversing distance'. So by substitution, the proposition would come to stand as 'we can traverse distance without traversing distance', which is self-contradictory.

But if the emphasis is on the word 'between' then it is logically possible to go from one place to another without traversing the distance *between* them but traversing in a round about way.

Strictly, 'traversing between' would mean going in the shortest possible route. In this sense, the shortest distance between two places on the surface of the earth would be through the earth. Loosely, traversing between would mean going by any route even encircling the world. But the common usage of 'between', vaguely indicates a route followed by travellers that is not very far from the shortest distance on the surface of the earth. One can obviously go from one place to another without traversing the distance between them, i.e., the route specified by the common usage. So it is logically possible.

*Q. (v) Is it logically possible to go back in time and help the Egyptians in building the pyramids?*

*Ans.:* Taken in a figurative sense we can imagine ourselves to be in 3000 B. C. or 30,000 A. D. and doing things, which we think happening in that age. But literally, we cannot be living in the 20th century and also in the 30th century at the same time.

It is logically possible that a man lives for several centuries, so that he was living in 3000 B. C. and also still lives in the 20th Century now. But it is not logically possible to live in two different centuries at the same time.

It may be suggested that it should be logically possible to live to-day in the 20th century, but tomorrow or some day after in 3000 B.C. Obviously, however, it is logically impossible, because if today be 1st Jan. 1997 then tomorrow is 2nd. Jan,

1997 by definition. So it is logically impossible for the same day to be both 2nd Jan. 1997 and also some day of 3000 B.C.

It may be suggested that one day may be the 1st January 1997, but the next day need not be 2nd Jan. 1997, it can be a day of 3000 B.C., if we go back in time. To this suggestion the objection is that 'Time goes forward is analytic'. Living means going forward in time. So going forward in time and also going backward in time is a clear contradiction. It is possible to go forward or backward in space, but not in time.

The pyramids were built long before we were born, without our assistance. We cannot change the past. Whatever happens tomorrow in which we participate is different. These two are different happenings in different times and cannot be identical.

It is logically possible that history repeats itself and we may start building pyramids. But it is only building the pyramids the second time in the 20th century A.D.; it is not the happening of the 3000 B.C. So it is logically impossible to do something to what has already happened, to go back in time literally and change what is unchangeable.

Similarly, it is logically impossible to live at the same time in the 20th century as well as in the 300th century. A man, of course, may live on and on with the forward flow of time. Thus a man of the 20th century may continue to live till the 300th century. It is not logically impossible. What is logically impossible is to live this year in the 20th century A.D., next year in the 300th century A.D., and the year after that in the 300th century B.C. If this year be 1997 A.D., the next year has to be 1998 A.D. and the next, 1999 A.D. and so on irrespective of the occurrences and events of the world that we may experience.

Q. 42 Explain what is a priori knowledge.

Ans. : Propositions can be classified as those which are necessarily true or necessarily false and those which happen to be true or false, but not necessarily so.

The truth or falsity of the former kind of proposition is knowable a priori, i.e., can be known before experience. Since they are always true or false in all possible universes, experiences or our own universe cannot be an unavoidable prior condition for their knowledge. For example, 'one cannot be in two different places at the same time', 'whatever has shape has size' etc. are true necessary propositions, knowable a priori. The negation of each of these propositions is a false necessary proposition knowable a priori.

On the other hand, there are propositions which happen to be true or false, but not necessarily so. The truth or falsity of such propositions is knowable a posteriori, i. e., can be known only after experience. These are called contingent propositions, because their truth-value is contingent on or depends upon what our universe is like. Without having an experience of the world, we cannot say a priori whether they are true or false. For example, 'some dogs are black', 'Delhi is the capital city of India' etc. are true contingent propositions, knowable a posteriori. And 'some dogs are green', 'Delhi is not the capital city of India' etc. are false contingent propositions knowable a posteriori.

The uniformities of nature, e. g., 'Water at sea level pressure boils at 212° F', 'All white tom cats with blue eyes are deaf', 'All birds are biped', 'All men are mortal' etc., appear to be always true without exceptions and hence necessary. But a little thought convinces us that they are neither a priori nor necessary. Of course, no exceptions have been found so far, but there is no guarantee that there will be none in future. We have to observe nature to know whether these uniformities still continue to hold good or not. So these statements are contingent and not necessary.

Some misconceptions regarding a priori knowledge need clarifications.

1. If I let go the pencil that I am holding, it will fall to the ground. If I dig out the foundations of my house, it will

collapse. In these cases, I know that these events will occur, under the stated circumstances, before the actual events occur. So it seems that I have a priori knowledge of them, before having the experience of the events.

But here the knowledge of the concerned events depends on some uniformities of nature, which are themselves contingent. So such knowledge, at best, can be said to be relatively a priori knowledge. This sort of a priori knowledge should not be confused with the absolutely a priori knowledge. This latter kind of a priori knowledge is prior to all experience and thus not based on any a posteriori knowledge.

(2) Chronologically, no knowledge is prior to experience, because our experience begins even in the mother's womb, before our birth. So in this sense, whatever knowledge we have must be a posteriori.

In philosophy, however, 'a priori' is used not with reference to the time of its origin but with reference to the manner of its verification. To know 'thunder is thunder' no empirical verification is necessary, but to know 'thunder follows lightning' such verification is necessary. The former is a priori knowledge, the latter is a posteriori knowledge.

*Q 43. Explain the relation between Analytic-synthetic and a priori-a posteriori classifications of propositions.*

*Ans.* A proposition is said to be analytic or synthetic according as its negation leads to self-contradiction or not. A proposition is said to be a priori or a posteriori according as its knowledge requires no empirical verification or it does. So the stand-points of classifications in these two cases are different. But generally, a priori propositions are analytic and necessary, whereas a posteriori propositions are synthetic and contingent. Now, the question arises whether any synthetic proposition can be a priori or not. To this question the empiricists answer that no proposition can be synthetic a priori, but the rationalists answer that some propositions can be synthetic



a priori, though most propositions are synthetic a posteriori or analytic a priori. The following are some of the propositions proposed by the rationalists, as synthetic a priori: 2 plus 2 equals 4. Every event has a cause. What is coloured is extended. Parallel lines never meet. If A precedes B and B precedes C, then A precedes C. An object cannot be at two different places at the same time. Time proceeds forward, never backward. Space is three dimensional, etc.

The empiricists contend that none of these or any other proposition is synthetic and a priori. They are either synthetic or a priori but not both.

*Q. 44. Critically examine the Kantian thesis that synthetic a priori knowledge is possible.*

*Ans. :* According to 'the rational insight theory', after deriving some concepts from experience, e.g., the concept of colour and the concept of extension, the mind has the rational insight that anything having the first property necessarily has the second property. Thus the proposition 'coloured things are extended' is a synthetic as well as an a priori necessary proposition.

According to the Kantian theory, synthetic a priori propositions become possible because of the nature of human mind. As somebody wearing always red glasses must see everything with a certain tinge of red as somebody fishing with a net having holes of one inch dimension, must catch only fishes more than one inch long, similarly human mind is so constituted, that we must know whatever we know of the world through certain forms of intuition and understanding and our knowledge of the world is controlled by them. Space and time are the forms of intuition and substance, causality etc. are the forms of understanding. So the world as known by us, i. e., the phenomenal world must exhibit some fundamental features of these forms, i. e., space, time, substance, causality etc. Statements about space, time, substance, causality etc. of the pheno-

menal world, therefore, can be synthetic, i. e., about the phenomenal world, and also a priori, i. e., known from their fundamental nature. Thus, 'Space is three dimensional', 'Time proceeds forward', 'Every event has a cause' etc. are synthetic a priori propositions.

These, of course, cannot be said of the world-in-itself, i. e., the noumenal world which remains unknown and unknowable. As the statements of the man always wearing the red glasses are not about the real world, as the knowledge of the man catching fishes with the net having holes of one inch dimension is not about the fishes living in the sea, so also human knowledge is not about the noumenal world.

The Kantian thesis has been criticised mainly on the following grounds :

1. It introduces more problems than it solves. For making knowledge of synthetic a priori proposition possible, it has made knowledge of the real world impossible. This total skepticism regarding the noumenal world consequent upon the reduction of space and time to mere forms is suicidal for knowledge.

2. The thesis cannot make us know that there is a noumenal world and that is unknowable. Knowing X to be unknowable is self-contradictory.

3. We cannot have a priori knowledge of unchangeability of the structure of human mind. So we cannot have synthetic a priori knowledge even of the phenomenal world.

The non-Kantian rationalists do not make knowledge dependent on the structure of human mind. According to them the real world exists independent of the human mind and knowledge of it is possible, but still they hold that some propositions are synthetic a priori. Before examining their view, it is advisable that we distinguish between a priori knowledge and a priori assumptions. A priori knowledge consists of propositions, the truth of which can be known without further

recourse to experience. But a priori assumptions are beliefs, which one entertains, without admitting any refutation of them. Such assumptions are not knowledge, because they are not based on sufficient evidence, though some of them may be true. In ancient times many people assumed a priori that the earth is flat without sufficient evidence. It is a false a priori assumption. Today if somebody assumes a priori that the earth is round without examining any evidence and refuses to accept anything as evidence against it, if found, then it would be an a priori assumption though in this case it is true.

It seems that the rationalist's claim to synthetic a priori knowledge is based on a confusion between a priori knowledge and a priori assumption.

*Q. 45. Examine the view that Arithmetical propositions are synthetic a priori.*

*Ans. :* Some rationalists hold that mathematical truths are synthetic a priori propositions. Let us examine the nature of a proposition in Arithmetic, e.g.,  $2+2=4$ .

Unlike 'All crows are black', this proposition seems to be true irrespective of time and place. So it is a true necessary proposition knowable a priori. And unlike 'Black cats are black', this proposition seems to give genuine information about the things of the world. So it is synthetic.

Some have interpreted such propositions as synthetic and a posteriori, i.e., similar in nature to the proposition, 'All crows are black'. No negative instance has been so far discovered, but it is logically possible to find exceptions. Arithmetical propositions are not different from propositions of physical sciences. They are, of course, more general, better established and have a larger number of evidences in their support; but nevertheless, they are non-analytic and contingent.

Usually, however, this interpretation is not accepted. Arithmetical propositions are, generally, taken as necessarily

true propositions knowable a priori holding good always everywhere. But one may doubt whether they are analytic. We work out sums in Arithmetic and come to know what we did not know before. They seem to give new information and thus different from propositions like 'Cats are Cats' or 'Black Cats are black'. But it is customary these days to take arithmetical propositions as analytic. 2 means  $1+1$ . So  $2+2$  means  $1+1+1+1$ . And 4 means  $1+1+1+1$ . Thus  $2+2=4$  is the same as  $1+1+1+1=1+1+1+1$ , which is same as 'Cats are Cats'.

Now, let us consider some of the objections to this view.

1. It is said that we can think of  $2+2$  without thinking of 4 and vice versa, but we can also think of 'brother' without thinking of 'male sibling' 'but brother is male sibling' is analytic and its denial is self-contradictory. So the psychological ability has nothing to do in the consideration of the proposition to be analytic.

2. It is said that in the case of large numbers, the identity of both the sides of the equation is not obvious. But obviousness, again, is a psychological characteristic differing from person to person and it has nothing to do in making the proposition analytic. The number of 1's on either side in case of large numbers will be more, but one side is exactly as the other side just the same.

3. It is said that the meaning of the two sides is not the same. True, but the denial would still be self-contradictory.

4. It is said that children learn the truth of  $2+2=4$  from experience by adding together marbles, sticks, coins, apples etc. So it is a generalization from experience. We, of course, learn the meanings of numbers and words like '2', '4' 'plus' and 'equals' etc. from experience. But the arithmetical truth does not depend on the nature of the things taken as instances.

If we put two coins in a new piggy bank and again two more coins, then we expect to get four coins in it when it is opened, because coins do not melt inside a piggy bank. This is a statement about the world no doubt. But for some reasons, if we do not find four coins in it, it does not falsify the arithmetical truth  $2+2=4$ . So the statement about the world should be distinguished from the arithmetical statement on which it may be based. The arithmetical truths remain necessary and analytic.

5. It is said that far from being necessary and analytic, the arithmetical propositions are not even true in all cases.

Two quarts of water and two quarts of alcohol do not make four quarts of mixture; it is a little less, because of interpenetration of molecules. Two lions and two lambs become two very shortly, because the lions devour the lambs.

These examples, however, are not relevant for illustrating the arithmetical proposition  $2+2=4$ . Arithmetic is not concerned with the happenings of this world or any other world. It does not even tell us that there are two or four things anywhere or not. It only tells if there be two, and two more, at a time, then there are four at the time. To say  $2+2$  is same as to say 4. This has nothing to do with the nature and behaviour of physical, chemical or biological things of the world. Two coins and two more coins put together in a melting pot on a furnace become one lump after some time; two amoeba become four by subdivisions; two rabbits produce a large number of rabbits in a short time; 2 c. c. of water poured into 2 c. c. of sodium results in an explosion leaving neither water nor sodium. These are the happenings of the world and the propositions concerned are all synthetic and a posteriori. The arithmetical proposition  $2+2=4$  is not refuted by these.

An arithmetical proposition, which is analytic and a priori as a proposition of pure arithmetic, is concerned with the numbers, not with the things of which they



are the numbers. But when arithmetic is applied to things of the world and we talk of the things, e.g.,

- (i) *2 apples and 2 apples makes four apples;*
- (ii) *2 lions and 2 lambs put together remain four animals next day;*
- (iii) *2 c. c. of water and 2 c. c. of sodium makes 4 c. c. of a mixture etc.*

then the propositions we get are neither analytic nor a priori. They are synthetic propositions about the world and a posteriori. From experience only we know that apples do not coalesce or fight with each other and the proposition about the apples is true. Again from experience, we know that (ii) is true only for a very short while and ultimately only two lions remain, and (iii) is utterly false, because water if poured into sodium explodes.

The arithmetical proposition would not be false even if none of these synthetic a posteriori propositions would have been true. Suppose, we count the 2 trees to our left and the 2 trees to our right and we get 5 instead of 4, we may fail to explain how this miracle happens, but still the arithmetical proposition  $2+2=4$  remains irrefutable. So it is not a generalization from experience. It is analytic and a priori.

6. It is remarked that arithmetical propositions are not analytic by themselves. They are analytic only in the context of an arithmetical system.

The Mathematician Peano took five postulates and derived the entire system of integers from them. The postulates may be taken as definitions and as such, are analytic. Consequently, all arithmetical propositions derived from them are also analytic.

Peano left the significant terms 'number', 'Zero' and 'successor' in his postulates uninterpreted. But if we interpret them in the arithmetical sense, then they render all arithmetical propositions analytic.

So our conclusion that all arithmetical propositions are not synthetic a priori, but analytic a priori remains unaltered.

*Q. 46. Are the Geometrical Propositions synthetic a priori?*

*Ans.* Let us examine whether geometrical propositions can be synthetic a priori.

Let us consider the proposition : The sum of the three angles of a triangle is equal to  $180^\circ$ . This is a theorem. Every theorem is derived from axioms, definitions and some of the theorems preceding it, if there be any, with the help of rules of inference. If the premises of our theorem, i.e., axioms, definitions and the concerned preceding theorems are true and the inference is valid, then our theorem is true. Definitions are analytic propositions; so they are necessarily true. Consequently, if the axioms be true, then the first theorem and subsequently all the succeeding theorems are bound to be true. So the crux of the problem is whether the axioms of Geometry are true or not.

Pure Geometry has nothing to do with the truth or falsity of the axioms. Its business is to see that the deductions are correctly made. Like the logicians, the pure geometer is concerned with the validity of the reasoning, not with the truth of the propositions. Applied Geometry, however, concerns itself with the physical space, when it applies the theory of pure Geometry to concrete cases of the world. Thus, surveyors in all ages have supposed the premises of Geometry to be true and the conclusion derived with the help of geometrical theorems to be also true.

Euclidean system of geometry is the oldest known system, but there are also alternative systems like those of Lobachevski and Riemann. These systems assume different sets of premises. Given a straight line and a point, only one straight line can be drawn through that point that does not intersect the given straight line in the same plane. This is the 'axiom of parallels'

in the Euclidean system. In the geometrical system of Lobachevski, more than one such line can be drawn and in the geometrical system of Riemann, no such line can be drawn. Now, as a system of pure Geometry, each of them is perfectly consistent and there is nothing to choose among them. But since the premises are different, no wonder the conclusions are also different. And if we try to apply the theorems to the actual world, we may discover that some are true, whereas others are not. Thus the propositions of applied geometry are synthetic and a posteriori.

Let us examine our example, "The sum of the three angles of a triangle is equal to  $180^\circ$ ."

As a part of the deductive system it is a priori, but it is so because it is analytic. As a statement regarding the world, it is synthetic, but then it is a posteriori.

Suppose, we are measuring a triangular field and all of us, taking utmost care in measuring find, that the angles add up to  $181^\circ$ , then one alternative is to say that the field is not triangular, i.e., unless the sum of the angles becomes  $180^\circ$ , then it is not a triangle. Here we are making this characteristic a defining characteristic of triangle and the proposition is analytic. We know it a priori from the system, and it is analytic. In the alternative we hold that in the concept of triangle, there is no question of its angles together being  $180^\circ$ . So the proposition is synthetic, and since the deductions are logically valid, some of the Euclidean premises are false.

Let us examine some of the premises of the Euclidean system.

'A circle is a plane closed figure all the points on whose circumference are equidistant from the centre'. This is a definition of circle. As such it is analytic and a priori. It has nothing to do with the facts of the world. So it is obviously neither synthetic nor a posteriori.

'A straight line is the shortest distance between two points'.

It seems obviously true known a priori, but then it is obviously analytic too. Being a straight line and being the shortest distance between two points necessarily go together. It is a definition. Kant, however, would object to this view. He remarked that straightness is a qualitative concept, but shortness is a quantitative concept. Thus it is contended that we might have the one concept without having the other: we learn that a straight line is the shortest distance between two points by experience and 'straight' is an indefinable word. In that case, the proposition is synthetic and a posteriori. It is logically possible to be otherwise.

Some have held that this statement far from being necessary is not even true of the actual space. Actual space is not Euclidean. Euclidean Geometry gives only an approximate description of actual space. The description may fit to terrestrial space, but not to interstellar spaces. The shortest distance on the surface of the earth properly speaking is an arc and not a straight line. The proposition, however, is an axiom of Euclidean Geometry that is assumed. But Euclidean Geometry is one thing and truth about the universe is another thing. As a proposition of pure geometry, it is a priori and analytic, but as a proposition of Applied Geometry describing the universe, it is a posteriori and synthetic. So geometry cannot provide us any synthetic a priori proposition.

*Q. 47. Give examples of some propositions about recurrent features of experience that are considered synthetic a priori by the rationalists and comment on the view.*

*Ans :* Let us examine some propositions suggested by the rationalists as synthetic a priori. They are about some recurrent features of experience.

1. 'All red things are coloured' :

This proposition appears as analytic, since red is a certain colour. But 'red' cannot be defined connotatively. And if we

cannot define 'red' in words, we cannot claim that 'All red things are not coloured' to be self-contradictory. The rationalist may argue that 'red' being a colour, we know a priori that red things are coloured things, but since we cannot show that its contradictory is self-contradictory, it is not analytic. So this proposition is synthetic a priori.

The empiricist, however, may point out that a proposition is also considered analytic, if its truth can be determined solely by analysis of the meaning of the words in the sentence expressing it. In accordance with this definition of 'analytic proposition', 'All red things are coloured' is analytic. We have no need to investigate the world to see if red things are coloured or not. By a rule of the language we know that this proposition has to be true. So it is an analytic a priori proposition.

The rationalist, however, holds that this rule of the language is based on a necessary connection between the properties concerned in reality and so the proposition has to be synthetic. The empiricist, on the other hand, takes the proposition to be analytic depending on the rules of language and insists that no reference to the world is needed in order to know its truth.

Thus the matter remains unsettled.

## 2. 'All colours are extended' :

This proposition which means colours, whether of physical objects or that are seen in dreams, hallucinations etc. are spread-out-in-space whether this space be real or imaginary. It is obviously a necessary proposition known a priori and seems to be analytic. But 'colour' and 'extension' are verbally indefinable words and so it cannot be analytic in the sense that its negation is self-contradictory.

According to the empiricist, it is analytic, since an analysis of the meaning of the words is sufficient to show that it is true



and no investigation of the world is necessary to realise its truth. Its analytic nature follows from a rule of language.

According to the rationalist, the proposition is synthetic, because this rule of language has its basis on the nature of reality.

The issue remains unsettled.

3. 'A thing cannot be red and green all over at the same time':

This is an obviously necessary proposition known a priori; but the empiricist would take it to be analytic and the rationalist would take it to be synthetic.

According to the 'principles of determinables' we know that we cannot simultaneously have two different determinates under the same determinable of any thing. Colour, shape, size, weight etc. are determinables. Red and green are determinates under the same determinable colour. So a thing cannot be both red and green simultaneously, though it can be red and round, red and big, red and heavy simultaneously, since these belong to different determinables.

According to the empiricist, the very meaning of the word 'red' excludes 'green' but it does not exclude 'round', 'big' etc. Being red is incompatible with being green. 'Red' and 'green', of course, are verbally indefinable. So it is not possible to show that the opposite of the proposition is self-contradictory. But the 'rule of language' justifies the view that it is analytic.

According to the rationalist, this rule of language is based on a necessary connection in reality and so the proposition is synthetic.

So no agreement is reached on the issue.

4. 'If A precedes B and B precedes C, then A precedes C':

It is an obviously necessary proposition known a priori and none would consider it to be a generalization from experience.

According to the empiricist, time-relation is a transitive relation and in the very meaning of A precedes B and B precedes C, the meaning of A precedes C is implied. So it would be a contradiction to assert the former and deny the latter. If anybody after knowing A preceded B and B preceded C, asks whether A preceded C or not, then he does not perhaps know the meaning of 'precede'. He is taking 'precede' to be something like 'love' or 'win' which are non-transitive. He has not learned the verbal conventions governing the use of these words. So the proposition is analytic.

The rationalist, however, contends that the meaning of 'A precedes C' is different from 'A precedes B and B precedes C' and there is no contradiction in denying the former while asserting the latter. In reality of course, this denial would turn out to be false. But that is because reality is so. Time-relation is considered transitive because of the nature of reality. The verbal conventions, the rules of language are based on the necessary connection existing in the reality. The time-stream goes forward, never backward. Because of this, time-relation is transitive and we make transitivity a part of the very meaning of time-words. So the proposition is synthetic.

Thus the difference of opinion remains unpatched.

##### 5. 'Two things cannot be at the same place at the same time':

Two unmalleable solid things obviously cannot occupy the same place at the same time. Two pieces of butter, two quarts of gas, in loose sense, can be said to occupy the same place at the same time. However, in that case, they no longer remain two things, but become one thing. Similarly, two interpenetrating things can be loosely said to be occupying the same given region of space at the same time. But even in this case, if we take the molecules into consideration, two molecules cannot occupy the same bit of space at the same time and thus the proposition under discussion is a necessary truth.

With regard to the question whether this proposition is analytic or synthetic, the empiricist would opine that it is analytic, but the rationalist would consider it to be synthetic.

According to the empiricist, it cannot be, of course, shown to be analytic in the sense that its denial is self-contradictory, because 'place' is a verbally indefinable word. But it is analytic in the sense that the meaning of two objects necessarily means its being at two places at the same time. The rule of language guarantees this. So it is analytic.

According to the rationalist, this rule of language is not an accident. It is dependent on a necessary feature of reality. So the proposition is synthetic.

The empiricist would point out that in that case, since there is no guarantee that reality would continue to remain the same in future, the proposition cannot be known to be true a priori. But the rationalist would hold that, though the concepts of 'place', 'body' etc. are derived from experience, we learn to use them in asserting propositions of the type that we are discussing and realise them to be necessary and a priori.

In any case, however, no agreement is reached on the issue.

**Q. 48. State and explain the Principles of Logic.**

**Ans. :** All human thought and discourse presupposes some principles to be necessarily true. Aristotle formulated three such principles of logic which are called the laws of thought.

- They are :
1. The Law of Identity : A is A.
  2. The Law of Non-contradiction : Nothing can be both A and not-A.
  3. The Law of Excluded Middle : Everything is either A or not-A.

These laws are fundamental in the sense that without presupposing them we cannot formulate or even consistently

think of any other truth. 'A table is a table', which is a necessary analytic truth, presupposes  $A$  is  $A$ . 'Square is not a circle, i.e., Nothing can be four-sided and non-four-sided presupposes the Law of Non-contradiction. Similarly, if the proposition is not false (not-true), it is true' presupposes the law of Excluded middle.

These laws, however, do not give any specific information about our world. They hold true of all logically possible world. They are, in fact, presuppositions of all coherent discourse about any subject-matter and even of consistent thinking of anything whatever.

The name 'Laws of thought' is considered unsuitable for these pre-suppositions, because undoubtedly they are different from the laws of thought formulated in psychology, which describe how we do think. People do not always think in accordance with them. Our wishes, hopes, emotions, imaginations influence our thought and we do sometimes think violating these laws. So they are more properly named as *principles of valid or logical thought*. As such, they have been formulated as necessary truths about propositions, in which case they are all tautologies.

Taking  $p$  to be the symbol of any proposition whatever, the law of Identity is formulated as 'If  $p$ , then  $p$ ', the law of Non-contradiction is formulated as 'Not both  $p$  and not- $p$ ' and the law of Excluded Middle is formulated as 'Either  $p$  or not- $p$ .' This formulation, obviously, is but an application of the laws of Aristotle to the case of a proposition.  $A$  has been substituted by  $p$ , i.e., a proposition. But as such, the laws can be used as rules of inference in logical deductions.

The laws of thought are presupposed even in their denial. If somebody denies the law of identity, he has to admit that his denial is a denial and thus has presupposed  $A$  is  $A$ . If somebody denies the law of Non-contradiction and holds that something is both a table and a not-table, then he becomes unintelligible. But let us symbolize the law of Non-contradiction as  $A$ . He

denies this law. So what he holds is not-A. He has to admit that his view is true and the law of Non-contradiction is false; both cannot be simultaneously true. So he has to admit that not both A and not-A. This is exactly the law of Non-contradiction itself. Thus by denying the law of Non-contradiction, he implicitly has accepted it.

By showing the undeniable character of these presuppositions, we have justified their truth, but we cannot prove them. We prove a statement to be true by pointing out the evidences in support of it or by deducing it as conclusion from true premises. Proof in the former sense is irrelevant in the case of the laws of thought, since they are the presuppositions of all meaningful assertions; the premises themselves would presuppose them. These laws themselves are the principles of proof and all proofs would presuppose them. So any attempt to prove them would involve them and beg the question. Thus, they can be proved neither with the help of other propositions nor by themselves. So they cannot be proved.

*Q. 42. State and critically examine some of the objections to the principles of logic.*

*Ans. : 1.* Tadpoles become frogs. Children grow into young men and women. So A is not always A, it becomes B. True, but as long as it is A, it is A; and when it is B, it is B. The law is not concerned with what becomes what in the universe.

Something may be in 'one sense A and in another sense not-A. But the different senses of the same term should not be confused. The law of identity does not say that sense 1 is sense 2. It only says that sense 1 is sense 1 and sense 2 is sense 2.

2. "This unicorn is either white or it is not-white". One may say that in this case both these alternatives are false, because there is no unicorn in the world. So the law of Excluded middle does not hold true always. We must remember, however, that the statement consists of two propositions. (i) there is a

unicorn and (ii) either it is white or it is not-white. The second proposition presupposes that the first is true. Now, if we say either there is a unicorn or there is no unicorn, it is obviously true. Again, if we say either there is a white unicorn or there is not, it is also obviously true.

3. "Something may be neither hot nor cold, neither big nor small etc."

This cannot be an objection against the law of Excluded middle. Hot and cold, big and small, fast and slow etc. are opposites, contraries, but not contradictories. One is not the negative of the other. Admittedly, there is a middle ground between hot and cold, between big and small, between fast and slow. But there is no middle ground between hot and not-hot, between big and not-big, between fast and not-fast, wherever we draw the demarcating line. If we say 'something is either hot or not-hot,' it is true. It cannot be neither hot nor not-hot.

4. 'A mental state is either hot or not-hot' 'A smell is either big or not-big', 'Number 2 is either fast or not-fast' are obviously false propositions. So the law of Excluded middle is not universally true. This objection is based on a category mistake. Hot is a term meaning a certain degree of temperature and above it. If not-hot is interpreted as the other degrees of temperature, then neither hot nor not-hot can be applied to a mental state. But this does not affect the law. The law does not say that every category of adjectives can be meaningfully predicated of any subject. The contradictory of a predicate hot, i.e., not-hot, however, includes everything other than hot and in that sense, since a mental state cannot fall in the category of hot, it is bound to fall into the only other category of not-hot. In this sense the above propositions are not false but true.

5. 'Jones is either at home or not at home'. Both the alternatives are false, if Jones is dead. Some may propose this as an exception to the law of Excluded middle,



The proposed statement includes two propositions. (i) There exists a man named Jones (ii) He is at home or not at home. The second proposition presupposes that (i) is true. So the statement can be restated as (1) Either there exists a man named Jones or he does not exist. And (2) If he exists, he is either at home or not at home. Both these propositions are true and in accordance with the law of Excluded middle.

The statement can be also stated as Either it is the case that Jones is alive and is at home or it is not the case. The second alternative covers (i) Jones being dead and (ii) Jones being alive and not at home.

6. It may be said that the law of Excluded Middle does not apply in cases of vagueness.

The speed of a car going 60 miles per hour may be considered fast by some and not-fast by some others. A fruit may be considered ripe by some and not-ripe by some others. True, but the difference of opinion is settled once we decide to draw the line of demarcation between the contradictories, wherever we choose. So this cannot be entertained as an objection against the law.

7. It may be complained that in order to save the law of Non-contradiction, the proponents unreasonably assume non-existing differences. They are guilty of assuming the truth of the law a priori and not prepared to admit any evidence as its refutation. A man may both love and hate his wife and it is a clear case of violation of the law of Non-contradiction.

It may be pointed out that what the law of Non-contradiction asserts is that love and not-love cannot exist together. Loving and hating are not necessarily opposites and in intense emotional state one may be a form of the other. In that sense, loving and hating may exist together and the law is not violated. Though not negatives of each other, loving and hating are ordinarily incompatible opposites and in that case,

they cannot both occur at the same time in the same person for exactly the same thing.

*Q. 50. Are the Principles of Logic Analytic or Synthetic ? Discuss.*

*Ans. :* It is agreed that principles of logic are a priori necessary propositions and no investigation of the world is called for to realise their truth. If we take an object to be a table, we have taken it to be a table. We cannot take it at the same time to be also not a table. And nothing can be neither a table nor a not-table. These statements are necessarily true in all possible worlds.

According to the empiricist, they are necessary and known a priori, because they are analytic. They are analytic, because their negation would lead to self-contradiction, *A is not-A* is obviously self-contradictory. They are analytic also because we can tell from the meaning of the words in them that they must be true. In fact, the principles themselves state explicitly the verbal conventions that determine whether a given proposition is analytic or not. 'Cats are Cats'. This is not both a cat and also not a cat' etc. are analytic because they are only application of the principles to the special cases. They of course, do not state any fact about reality. They are empty of contents and say nothing of this world or any other world. They are rules of the language-game, convenient, and useful, but neither factual nor informative about the world. Their formulation depends on language and their truth depends on the meaning that we have assigned to words, especially 'not' which means absence of what follows it. As rules of language and logic, alternative rules could be possible, but we have given such a meaning to the word 'not' in the context of these principles that it excludes all alternatives. Aristotle's laws of thought along with certain other principles of inference constitute a set of rules of inference, which cannot be properly said to be true or false of the world of things. Their denial is not false, but meaningless.

They are justified by their utility in enabling us from passing from true premises to conclusions, whose truth is guaranteed by their validity. With their help we construct proofs. Thus, they have an end to achieve and are pragmatic in character. Like mathematical propositions, like definitions, they are analytic and since they are not factual judgements, they are not synthetic.

According to the rationalist, these principles are, of course, necessary and known a priori, but they are synthetic.

The law of Non-contradiction is used to define an Analytic proposition. It provides the test-criterion for the analyticity of other proposition. So it itself, cannot be said to be analytic. It stands outside.

We do not make these laws. Formulated or not, their truth is ingrained in the nature of reality. They are fundamental laws of reality and describe certain general features of reality. So they are universally true. Naturally, they do not give any specific information about any particular thing, which is true of that thing and false of other things. They are highly general truths, true of everything of this world or any possible world. So they cannot be said to be empty of contents. They cannot be said to be verbal conventions that can be changed; these laws cannot be changed at all. They are not like definitions which is a matter of convention. They are unchangeable facts about reality in general and have no alternatives. They are ontological truths which logic has to adopt as the principles of inference in order to get true conclusions from true premises. As such, they are very useful, because they are true. The verbal convention is made in accordance with them, simply because they describe the way reality goes. They are the presuppositions of our verbal convention and not the outcome of it. No verbal convention can be established which is inconsistent with these laws. They are, of course, not contingent but necessarily true propositions, whose denial cannot even be thought of. So

their denial is not false as is the case in contingent propositions but meaningless. Nevertheless the laws are factual statements about reality and consequently synthetic.

Thus we see that principles of logic are analytic a priori according to the empiricist, but synthetic a priori according to the rationalist. The difference of opinions is not settled.

## Empirical Knowledge

*Q. 51. Explain what is a law of nature? State and explain its characteristics.*

*Ans. :* In our experience of nature we find that there are certain regularities. The individuals of a species are regularly similar in certain characteristics and certain behaviour : Cows are quaduped; Iron rusts; Birds lay eggs; Lightning is followed by thunder and so on. We also notice some irregularities in nature : Cows are of different colours; some rocks are hard, some soft; some birds sing, some do not and so on.

If all nature would have been irregular, we would have learnt nothing from our past experience about the future. But nature does contain some regularities also and we are interested in discovering them, because they help us in making prediction about the future. Our prior knowledge of the future events enables us to take advantage of, guard against or even control and guide the occurrence of some of these future events to our benefit.

Most of the regularities in nature noticed by us are later found to have some exceptions; but science is interested in discovering exceptionless regularities, invariable generalisations, genuine invariances. When it does succeed in finding out such a genuine invariance, it is said to be a law of nature.

### **Prescriptive and Descriptive Laws :**

The laws of nature are descriptive, and differ from prescriptive laws, e.g., the laws of the state or of a society,

which are imperative or commands of the competent authorities to be obeyed by the subordinates.

The laws of nature, e.g., Kepler's laws of Planetary Motion or Galileo's law of falling bodies etc. describe certain uniformities of our universe. They are not prescribed by their authors to things of nature. These uniformities of nature would occur even if no human being exists to describe them.

The distinction between these two kinds of law helps to clarify many confusions.

The statement "Laws should be obeyed" is relevant in the case of prescriptive laws and irrelevant in the case of laws of nature. There is no question of *should* in the case of laws of nature. Things do behave in accordance with these laws. Their behaviours are instances of the laws and data for the formulation of the laws. The statement "where there is a law, there is a law-maker", again, is one about the prescriptive laws. It is not a necessary proposition with regard to the laws of nature. The statement "Laws are discovered, not made" is one that applies to only laws of nature. Prescriptive laws are made by human beings. Laws of nature exist in nature. They are only discovered and formulated by human beings. Laws of nature are empirical propositions, i.e., propositions whose truth can be tested by observation of the world. But all empirical propositions are not laws of nature. An empirical proposition in order to be considered as a law of nature must have the following characteristics.

1. Laws of nature must be true, universal, empirical propositions. Singular and particular empirical propositions provide materials for laws, but a law must state something true about all the members of a given class. In psychology, we hardly get laws, because it is difficult to discover what is true of the behaviour of all human beings, without any exception, irrespective of circumstances. Physical phenomena, however,



exhibit some uniformities irrespective of the circumstances in which they occur, and we get many laws of nature in physical sciences.

Laws of nature must be true synthetical propositions. Analytical propositions are not empirical statements and cannot be treated as laws of nature. It is for this reason that some statements of psychology which appear like laws of nature are not recognised to be laws. 'People always do what they most want to do'. This proposition may be interpreted as synthetic, but then it is false. We have to do and often do what we do not want to do most. If it be interpreted in some sense of 'want' to make it to be true always, i.e., they really want to do something only when they actually do it, then it is analytic and not a law of nature.

Statistical laws of the form 'a percent of A's are B's' are loosely said to be laws of nature. But they cannot be properly said to be laws, because laws must state invariable relations; they must be universal propositions.

2. The laws of nature are not existential propositions. Since they are universal propositions, they are interpreted as statements making no existential claim. 'Some crows are black' means 'there exists atleast one crow and it is black.' But 'All crows are black' means 'if there be a crow, it is black.' It does not state whether there really exists any crow or not.

Now, this interpretation of the laws makes even propositions like 'All unicorns are white' or 'All unicorns are green' true, because there are no unicorns. All unicorns are white = If there be a unicorn, it is white = Either there is no unicorn or it is white = Not both that there is a unicorn and it is not white. The nonexistence of unicorns makes the truth of these equivalent propositions obvious. But such propositions, though true universal and empirical statements, are not taken as laws of nature, because they are not connected with other laws of

nature. One essential characteristic of a law of nature is that it is an element in a system of laws.

3. The laws of nature are about open classes not restricted in space and time. So the true universal empirical statements, which merely summarise our observation and has no predictive value, are not considered as laws of nature. On this ground, 'All crows sitting on this tree are black' and 'All crows observed thus far are black' do not deserve to be laws of nature. On the other hand, 'All crows of past, present and future are black' is a proposition which has a predictive value. We can predict from this proposition that the next crow that we shall see will be black. Enabling us to predict is considered to be the most important feature of a law.

4. But still 'All crows are black' is not generally considered to be a law of nature. It is, of course, a true universal synthetic proposition regarding an unrestricted totality. But it lacks another important feature of law of nature. The law of nature is supported by indirect evidence.

A law of nature along with other laws of nature constitutes a system of laws. The laws of the system are so interconnected that the direct evidence of one law provides indirect evidence for many other laws of the system. Again, the falsification of one law necessitates abandonment or modification of many other laws of the system. Now, 'All crows are black' has in its support only direct evidence. So, if it is falsified by the discovery of a non-black crow, it would not necessitate any change in the other laws of biology. But 'All crows are mortal' is connected with many other laws, viz., laws concerning mortality of living beings, biochemical deterioration of tissues, auto-allergenic response etc. So if it is falsified, it would lead to lots of changes in many laws. It is deeply embedded in a wide system of laws. So it would pass as a law.

5. Generality and fundamentality are also the features that are taken into consideration in deciding whether a statement fulfilling all the above conditions be taken as a law or

not. 'All metals are good conductors of heat', because of its generality, is universally reckoned as a law; 'Silver is a good conductor of heat' is not accorded a similar status. In spite of limited generality, 'The velocity of light in a vacuum is constant' is considered to be a law of nature because of its fundamentality. But in spite of fundamentality, a statement about the mass of the electron is not accorded the status of a law; it is considered to be a statement of fact. So this point is not very clear cut.

*Q. 52. Distinguish between Law, Theory and Hypothesis.*

*Ans. :* The distinction between law and theory though vague is considered to be important. A law is said to be discovered, but a theory is said to be constructed. A law deals with only observable facts, but a theory contains some term that does not denote anything which can be observed. However, both are equally well useful in explanation.

The theory regarding the ultimate constituents of matter which presumes the existence of protons and electrons, neutrons and neutrinos is the most thoroughly worked out theory in the empirical sciences. It is the refined version of the atomic theory of Democritus and Lucretius and is utilised for explaining innumerable physical and chemical phenomena like unnoticeable wearing away of stone in course of time, solubility of sugar and ink in water, formation of chemical compounds, evaporation of scents, explosion of gunpowder etc. This theory is said to be a "really exist" theory, because these unobservable theory-entities, e. g., electrons, protons etc. are believed to be existing. The ego-id-superego theory of psychoanalysis and the valence theory of chemistry, on the other hand, are supposed to be "as if" theories, because their theory-entities are believed to be "convenient fictions" rather than something existing. In any case, however, the theories have enormous explanatory power and differ from 'summary statements' which merely describe a large number of observable facts in a summary way and explain nothing.

A hypothesis also explains facts. And though in common parlance, it is used indistinguishably from theory, a distinction between them is made in science. Laws and theories both involve general statements regarding some aspects of the world, but hypotheses are framed in order to explain some particular occurrences. A hypothesis usually is concerned with some observable fact and in this respect differs from a theory. Further, it can explain what it is framed for only with the help of certain laws or theories. But laws and theories independently can explain facts. We frame hypotheses regarding the origin of the solar system; we discover laws regarding the motions of bodies and we construct theories regarding the ultimate constituents of matter and mind. But all the same, they are all concerned with explanation.

*Q. 53. What is Scientific explanation? How is prediction connected with explanation?*

*Ans. :* Usually, a why-question is a demand for an explanation. But sometimes it is also a request for giving a reason. We give reasons for holding some proposition to be true; but we give explanations for occurrence of some event. Sometimes reason and explanation coincide; but sometimes they do not. The reason for my belief in a good God consists of the premises which lead to the conclusion that God is good. But my explanation for the belief may be my feeling of insecurity without a protector as God.

Scientific explanation is sometimes given in order to account for the occurrence of a particular event; e.g., 'the bursting of my water pipe or the collapsing of the wall of my house at a certain time. Sometimes explanation is given in order to account for a law of nature, e.g., expansion of water when it freezes, dissolving of salt in water,

The explanation of a particular event consists of one or more laws of nature and one or more particular facts. Neither the laws alone nor the facts alone can explain fully the

occurrence of any particular event. In order to explain why the pipe line in my garden burst last night, one may say :

- (i) Water expands when it freezes (law).
- (ii) The pipe was filled with water (fact).
- (iii) The pipe at breaking points was not strong enough to resist the force of the expanding ice.  
(fact).
- (iv) The container has to provide an outlet when the volume of the contents is more than it can contain.  
(Law).

The knowledge of facts may be derived by observation or by inference from hypothesis and the laws may require further explanation. The explanation of a law is given by other laws and theories. The law that water expands when it freezes can be explained by the theory concerning the crystalline structure of water molecules. Galileo's law is explained by Newton's laws of motion and the law of gravitation. Newton's law of Gravitation is explained by Einstein's theory of Relativity. Thus, for explaining laws ultimately we have to refer to theories. In any case, however, explanation fails unless the laws and the theories, with which we explain, are accepted. Sometimes, an explanation is accepted even when the law that is advanced for explanation is merely a law in a loose sense. The baby caught cold, because he played with another baby suffering from cold. What is involved in the explanation is that generally persons coming in contact with people having a cold get a cold themselves. This is not a law but the explanation is usually accepted.

Scientific explanation explains why one event rather than something else happens, why one law rather than some other works. It is said, "That which explains everything, explains nothing." For explaining why water expands on freezing, or why quinine cures malaria or why my window-pane is broken, if I give the same explanation "because God wills it",

it is not an explanation at all in science. But our explanation is also not confined to only the immediate event; it explains other similar events of past and future and also some allied events. The expansion of water on freezing explains not only bursting of pipes in very cold climates, but also formation of ice on the top of ponds rather than on the bottom, and many other allied events of past and future. It is because of this that we can successfully predict what will happen in future, if we accurately know the circumstances. The predictive power of a law or theory is, therefore, sometimes treated as a test for its confirmation. It should be remembered, however, that prediction becomes possible not only because of our knowledge of the law but also because of our knowledge of the initial conditions, i.e., the specific circumstances. The law of Universal Gravitation and the Atomic theory have remarkable explanatory power as well as great predictive value in diverse fields. But the laws regarding earthquakes, though have explanatory power, has little predictive value, because of lack of the knowledge of initial conditions.

*Q. 54. What sorts of explanation are unsatisfactory? What is the limit of explanation?*

*Ans. :* Some pseudo explanations are no explanations at all. Calypso tablets produce sleep, because they have soporific power. The mother animal takes care of her young ones, because she has a maternal instinct. Such explanations are useless, because they neither explain what is really wanted nor inform any relevant fact. If the watch or radio does not work, and we are said that an unobservable gremlin is responsible for it, we have got no explanation at all except knowing that the watch or radio does not work. It is useless, because no verifiable consequence can be deduced from it. On the other hand, the electron, proton etc., though unobservable, have verifiable consequences in their confirmation and explain many phenomena which cannot be explained without them.

Teleological or purposive explanations are no longer considered satisfactory in science, unless the events to be explained



involve conscious beings. In science, natural facts and events are explained by laws of nature and not by the purposes of supernatural agents.

Purposive explanations, of course, are satisfactory in the case of actions of human beings, e.g., A student works hard, because he wants to get a first class. Unconscious purposes are also invoked in explaining some human behaviour in psychiatry. Sometimes, 'purpose' is also used in a diluted sense. The hammer pounds nail, because that is its purpose. Here the purpose cannot be of the hammer, but of the man who made it. The heart pumps blood through the body, because that is its purpose. Here perhaps God's purpose is meant, but in scientific circle 'purpose' in such cases would be interpreted as 'function'.

Some people draw a distinction between description, i.e., answer to the question how, and explanation, i.e., answer to the question why and opine that science answers the question how, but not the question why. In their opinion, why questions even of natural phenomena can be satisfactorily answered only in terms of divine purpose. In scientific circle, however, no such distinction is considered legitimate, unless what is needed to be explained be human actions. In any case, purpose implies the existences of a purposer and no purposive explanation is possible in the absence of a purposer.

No scientific explanation is possible in the case of ultimate laws.

Events are explained by laws and the laws are explained by other laws and theories. But this procedure cannot be continued when we reach an ultimate law. Bursting of pipes can be explained by expansion of water on freezing. Expansion of water on freezing can be explained by the theory concerning the structure of water molecules. But this theory cannot be explained by anything else. It is considered to be a 'brute fact, of the universe. The elementary structures or elementary processes cannot be explained further. They are the ultimate

laws or theories. We are, however, not sure at any stage whether we have reached the unexplainable ultimate law or not. Newton's law of Universal Gravitation was supposed to be an ultimate law that cannot be explained further. But now it has been explained by the Einsteinian theory of Relativity and there is no knowing whether this in future can be explained by something else or not. When, however, we do consider a law or theory to be ultimate, it is self-contradictory to ask for its explanation, because taking it to be ultimate is by our own admission taking it to be unexplainable.

## Some Metaphysical Problems

*Q. 55. What are metaphysical problems ? How do they differ from other problems ?*

*Ans. :* Some problems concerned with 'what is' have been traditionally considered as metaphysical problems. They are supposed to be problems regarding the fundamental and general features of reality which raise issues that cannot be solved by science. The very existence of such problems has, however, been challenged by some philosophers. But, generally, some problems, e.g., those regarding substance and universals, matter and life, mind and body etc. are considered as metaphysical from the ancient time and solutions to them have been attempted not by empirical means, but by systematic exercise of the understanding.

Metaphysical problems are inextricably connected with epistemological problems. Metaphysical problems raise the question 'what is X ?', while epistemological problems raise the question 'how do we know X ?'. Thus, in principle, they are distinguishable. But in practice, we find that one unavoidably leads to the other when we attempt to resolve the issues.

Metaphysical problems raise questions of very wide generality and differ from problems raising local questions. 'What is the time now ?', 'what are the items of food available in this restaurant ?' are not metaphysical questions. But 'what is time ?', 'what are the ultimate realities ?' are considered to be metaphysical questions.

Science also deals with questions of very wide generality, but their solution is dependent on evidences confined to the empirical domain. Many highly general problems, e.g., relation of matter and energy, are discussed in science and some philosophers would opine that all such problems belong to science, leaving nothing to be solved by metaphysics. The metaphysicians, however, insist that there are problems which cannot be satisfactorily solved by science. All 'what is' problems, which could be resolved at least in principle solely by empirical means, are scientific problems. All such problems, which could be resolved by mathematical means, are mathematical problems. But there are some other problems, which, even in principle, cannot be resolved by empirical or mathematical means alone and their discussions belong to metaphysics. For example, whether light consists of waves or particles, whether matter and energy are interchangeable are scientific problems. But problems concerning the classification of reality into temporal and non-temporal or material and non-material or mental and non-mental are metaphysical problems. They are not confined to merely empirical facts, but go beyond them.

Some philosophers would treat such problems as verbal, if they are not concerning empirical facts. But the metaphysicians would insist that they are not verbal, but factual issues. According to them factual issues are not necessarily empirical issues. Factual issues may be empirical or non-empirical. It is the non-empirical factual problems, which metaphysics is concerned with.

*Q 56. Discuss the problem of substance.*

*Ans. :* There are many things or substances in the world, e.g., earth, water, wood, bone etc. They are different combinations of a limited number of basic elements or ultimate substances like oxygen, hydrogen, carbon, iron etc. The things or substances undergo changes. A stone slab wears away. A new garment becomes old and torn. A leaf might be green in the past, is yellow now, and may be brown in future. The changes

are events in time. Changes take place in the substance and presuppose a thing that changes, but events occur in time, one succeeding another.

Every specific substance has a number of different properties or characteristics. Some of these are conventionally taken to be such that a thing to be considered as that thing must have a quorum of those characteristics. If all the characteristics in the quorum were removed, it would no longer remain that thing. A thing is called 'gold' if it produces certain spectral lines, has a certain atomic number, a certain atomic weight, a characteristic colour, a certain degree of malleability, a certain melting point and enters into certain chemical combinations. If some of the characteristics be removed, it may still perhaps be called gold. But if the atomic number is removed, most chemists would not consider it to be gold, still it would be some substance though no longer called gold.

Now let us suppose, we remove all the characteristics of gold even its extension and mass. Then the question arises, do we have still some substance or there is nothing at all. Surely, gold and the properties of gold, a substance and the properties of that substance are not just the same. And by removing some properties, a substance still remains holding the remaining properties and characterised by them. But does the substance disappear along with the removal of all its properties or it still exists being a property-less substance?

One view is that if all the properties of a substance be removed, there is not only no property, but also no substance. Substance is merely the sum, the collection of its properties. So how can we get merely a collection, when there is nothing to be collected? Property-less substance is a self-contradictory idea. We should not be misled by the grammatical distinction of nouns and adjectives, of substantives and attributives, of subject and predicate designating substances and properties. It leads us to think that substances are something different,

from bundles of properties. But there is no 'simple entity' corresponding to the subject 'it' apart from the 'appearances', which are attributed to the 'it'. We know and define the substance only through its qualities. An unknowable substratum existing prior to its bearing the qualities is a philosophical myth. There are different coexistences of qualities and they are said to be the different substances.

Another view is that even if all the properties of a substance be removed, the substance itself is not destroyed. The substance logically has to exist prior to its properties and logically continues to exist after the removal of the properties. The properties were its properties. So the 'it' is different from the properties. Without the 'it' being already there, the properties would have nothing to hold them together. Empirical substance and its properties are found together. Colour and shape, shape and size are found together, but one is not the other. They are not separable but distinguishable. So also is the case with substance and its properties. A propertyless substance is, of course, not any specific thing like water or gold, because a specific thing is defined by its properties. But though not any specific thing, it is not nothing at all. There are substances and there are properties of substances. The properties do not just float around; they are bound together determining the nature of the substance; the binding element is the substance itself. It is a metaphysical reality presupposed by the properties. A group of qualities is merely a group of qualities, not a substance. Two exactly similar groups of qualities are distinguished from each other not on the basis of qualities but on the basis of the two substances that hold the similar but different groups. One gold bead is here, another gold bead is there. In respect of qualities they are exactly the same. But they are two, not one. Matter is the principle of individuation, when groups of qualities are same.

Some philosophers would consider the above discussions as merely one concerning a verbal issue. Factually, gold remains gold, whether we take it to be simply a collection of properties



or a substance holding the collection. The issue obviously is not empirically resolvable. Some metaphysicians would, however, consider it to be a factual issue concerning the ultimate categories of which reality is composed.

*Q 57. Discuss the problem of universals.* ✓

*Ans :* Particulars, i.e., individual things exist in space, occur in time. It will be seen that different particulars share some common properties. For example, blueness is the common property of the sky, the ocean, smoke, the distant hill etc. The common properties are given general names. Ram, Sivaji, Elizabeth are proper names of particular human beings, but 'man' is the name given to their general properties. These general properties are universals. Universal is anything that can have instances. Obviously, the universal does not exist in space and time; its instance, i.e., the particulars exist thus. What sort of existence, if any, a universal has and how is it related to its particulars? This question has occupied a central place in Metaphysics and various answers have been suggested. Let us examine them.

#### **Plato's theory of Universals :**

Plato's view of universals is generally called 'realism'. According to him, reality consists of universals as well as particulars. Particular human beings as well as the universal manhood are real entities. Perfect virtue, perfect goodness, perfect circles, perfect straight lines do not exist in this world of ours. We find only imperfect instances of them; but we know them to be imperfect, because we have an idea of the perfect universals. This idea, according to Plato, we got by our direct experience of them in our life before birth.

With regard to the question on the relation between the universals and the particulars, Plato seems to hold two principal views.

#### **1. Archetype :**

The universal is like an archetype, a model, the original of which the instances are copies or imitations. The perfect

horse, the perfect circle, the perfect goodness etc. exist in the world of the universals. All horses of this world and all instances of circle and goodness that we may find here are only imitations which approximate the originals in different degrees.

This two world concept is not accepted as a theory of relation between the universal and the particulars, because the model, the archetype, wherever it exists, if it at all does, is nothing but another particular. It is perhaps a perfect particular, but still it is nothing but a particular; and its relation to the particulars of our world is nevertheless a relation of one particular with another particular, not of a universal with a particular.

## 2. Participation :

The particulars participate in the universal as a number of people take shelter under, and thus participate in the coverage of the same sail. This raises the question whether a large number of particulars participating in the same universal will get a lesser share of the universal and ultimately will the universal be exhausted ?

The participation concept, again cannot be a theory of the relation between the universal and the particulars. The sail is as much a particular as the people who participate in it. So it is a relation of one particular with another.

To do justice to Plato, it may be remarked that he used these examples as analogies, not as exact accounts of the relation between particulars and universal. Elsewhere he also hinted that the relation between universal and particulars is the unique relation of exemplification or instancing, which no analogies can adequately illustrate. ✓

Plato noted that there are individual things and the properties of things. Sky and ocean are individual things. Blueness is a property of these things. But besides these, there are also relations. The sky is above the ocean, 'Being above'

is not a simple property but a relation or a relational property. So we can talk of three things : particulars, properties and relations, or we may say that there are two things : particulars and universals. Universals can be divided into properties, e.g., squareness, blueness etc. and relations, e.g., being above, being to the north of, being larger than etc. Both properties and relations have instances. Sky and ocean are instances of blueness. Sky *being above* the ocean is an instance of above-ness.

✓ It should be noted that universals, i.e., properties and relations are not subjective entities but objective entities. They are out there just as the particulars. <sup>universals</sup> Universals, ~~said~~ <sup>acc</sup> Plato, are as objectively existent as the things exemplifying them. The Neo-Platonists relegated the universals to the mind and considered them as mere thoughts. But Plato would not consider them to be so. Thoughts in the mind are also mental particulars. Plato would not consider mathematical entities, e.g., a geometrical theorem to be existing only in the mind. A theorem is discovered, not invented. It is a reality. The thoughts of different persons, even of God, are not universals but particulars. To identify these thoughts which occur in time with the timeless entities, the universals, will be committing a category-mistake.

It would be a mistake again to confuse the relation between the universal and the particulars with that between the Genus and the Species. Genus-species relation is between one class and another sub-class under it. It is the relation between one property and another property, one universal with another universal never between one class and an individual. ✓ Genus-species relation exists in the relation of man and tall man or more properly between being a man and being a tall man, not between man and Aristotle. On the other hand, universal-particular relation exists between man and Aristotle, not between man and tall man.

According to Plato, universals exist, no matter whether there are at present particulars exemplifying them or not. We

can have a concept of them, though we might never have seen any particulars that exemplify them. The universal horseness has instances. The universal unicornness has no instance. But we have concepts of both the universals, horseness and unicornness. The concepts are in our mind, subjective, but that of which we have the concepts, the universals, are out there, objective, in reality. Reality, therefore, consists of the particulars which exemplify the universals and the universals which are exemplified in particulars.

*Q. 58 Discuss Aristotle's theory of Universals.*

*Ans. :* Aristotle's view of universals is also called 'realism'. He does not approve of Plato's 'two world' theory. Plato's realm of universals appears as a metaphysical fiction, not a fact. But even if it be a fact, it would be a world of super-particulars, not a world of universals.

Aristotle, of course, considers the universals to be existent, independent of the minds, but they are not independent of the particulars. The universals depend on the particulars as much as the latter on the former for their existence. Universals exist only *in re*, i.e., in things, not *ante rem*, i.e., prior to things as Plato thinks. According to Aristotle, universals are nothing but common properties, whether simple or complex, intrinsic or relational, which exist in the things or particulars which have the properties. If there be no blueness, there would be no blue things, and if there be no blue things, there would be no blueness. Universals and particulars are logically dependent on one another. So, according to him, in the case of horse, the particulars, i.e., this horse, that horse etc. and the universal horseness both exist, but in the case of unicorn, neither the particulars nor the universal exists. Unicornhood is a mere concept which we have formed in the mind, not a reality or fact. Aristotle supposes that the universal exists identically in each of the particulars that instantiate it and does not exist apart from such instantiation.

*Q. 60. How do the living things or organisms differ from the non-living material things ? Discuss the vitalism-mechanism controversy.*

*Ans. :* Ordinarily, we make a distinction between the living and the non-living, the organic and the inorganic things, though it is difficult to draw a clear line of demarcation between the simplest organism, the amoebas and the most complex inorganic matter, the crystals. The living organism differs from the non-living objects in a number of points :

- (i) The matter composing the living organism constantly changes; new matter is assimilated and old matter is excreted. The characteristic form of the organism, however, remains almost the same till its death.
- (ii) The organism grows till it reaches its maturity.
- (iii) It reproduces, i.e., produces organism similar to itself.
- (iv) Animal organisms exhibit impression-reaction activities, which differ from the reaction exhibited by the inorganic chemicals. They learn through experience and their reactions to the same kind of stimuli change. The higher the organism, the more varied the reactions.
- (v) Animal organisms exhibit teleological or purposive behaviours which seem to be directed to the end of preservation of the self or the species.

Purposive behaviour, of course, implies somebody to have the purpose. But in many behaviours of the organism which seem to be purposive, e.g., the hen sitting on the eggs to hatch, the squirrel storing nuts for the winter, the development of the complex and intricate mechanism of the eye in the embryonic stage to be able to see after birth, the development of antitoxin in the blood to counteract the toxins entering into the body, the secretion of the hormones to digest food etc. seem to be purposive activities suitably adjusted to present

or future end; but the individual concerned does not seem to have any conscious purpose, while these activities go on in the organism.

Now the question is: do these behaviours of the living organisms for their interpretation necessitate the supposition of the existence of a special life force or *elan vital* in the living organisms, which the non-living objects lack or are the living organisms merely more complicated machines? Do living organisms belong to some higher order of existence or are they analysable by physics and chemistry as is the case in the non-living object? There are two views on such questions. Vitalism stresses on the difference between the behaviours of the living and the non-living things and treats them as belonging to different levels of existence, but Mechanism stresses on the similarity of these behaviours and makes the living things continuous with the non-living things. It is objected, however, that the use of both these terms have remained vague and ambiguous.

The distinction between vitalism and mechanism is brought out in several ways:

### 1. Existence of a non-material life force:

According to the vitalists, there exists a non-material life force in living organisms, which explains their characteristic behaviours and distinguishes them from non-living objects. Being non-material, it does not occupy space and so it is illogical to try to discover it by observation either inside or outside the organism. 'All realities need not be observable or discoverable by the scientific methods. Nor is the scientific explanation the only way to explain phenomena. The mechanist can neither explain the organic behaviour nor prove the non-existence of the *elan vital*. Organic behaviours are facts of experience and none can deny them. The only way to explain them is to suppose that the life-force does exist in living organisms and makes their distinguishing behaviours possible.



According to the mechanists, the mysterious behaviours of the living organisms are not explained by simply uttering a mysterious word '*elan vital*', which stands for nothing whatever. Far from having any evidence for the existence of any reality corresponding to it, we have not even a clear concept of it in our mind. It is not an alternative shorthand name for the collection of organic behaviours, but supposed to be something more that explains these behaviours. But besides violating the law of parsimony, it has no explanatory power. It is neither itself observable nor has any observable consequences as those of electrons and protons etc., which are also unobservable entities. The latter, however, explain how some empirical phenomena occur as they do and not otherwise. But the *elan vital* does not explain how the phenomena concerning organic behaviour occur. It is only said that all sorts of organic behaviour are due to the presence of a life-force and that is all. The mechanists claim that some organic behaviour have actually been explained scientifically and many others are likely to be explained thus in future. But in any case, if something cannot be explained thus, it cannot be also explained by proposing to ourselves merely a word like '*elan vital*'.

## 2. Emergence :

According to the vitalists, the characteristics of living organism are emergent. According to the mechanists, they are not so.

A characteristic of a compound is said to be emergent, if it could not be predicted from a knowledge of its constituents. A complete knowledge of the constituents, of course, would include also the knowledge of the compounds which they form. But here the question is whether complete knowledge of the constituents *in isolation* would enable us to predict what would be the characteristics of the compound or not. Further, 'prediction' here means predicting with logical certainty and not with empirical probability, which may turn out to be true or false.

Interpreting 'emergence' in this sense, the vitalists are of opinion that a complete knowledge of the physical and chemical properties of all the cells of a living organism cannot enable us to predict the teleological or purposive behaviours of the organism. These behaviours are the outcome of emergent characteristics of the organisms.

According to the mechanists, our knowledge of the cells of the living organism is far from complete at the present stage. Even then, some of the behaviours of the living organism, e.g., the digestive behaviour, are predictable with certainty. In due course all other behaviours of the living organism would gradually become predictable. So none of the characteristics of the living organism is emergent,

### 3. Reducibility :

It is said that if biology is reducible to physics and chemistry, then mechanism is true, and if it is not reducible thus, then vitalism is true.

If all the statements of one science are logically deduced from those of another, then the former science is said to be reducible to the latter.

At the present stage of the progress of sciences, a part of biology has already been reduced to physics and chemistry, but the part concerning the teleological behaviour of organisms has resisted such reduction. Whether this part can be reduced or not in future, we cannot tell.

But in any case, vitalism in the sense of irreducibility to other sciences is different from vitalism in the sense of a life-force,

**Q. 61.** *How are mental events different from physical events? Is it logically possible for one to feel the pain of some one else ?*

**Ans. :** Generally, a distinction is made between matter, life and mind, which are considered as belonging to three successive

levels. Life seems to appear only when matter assumes forms of great complexity; and mind seems to appear when living organism assumes forms of still higher complexity. Further, though the inorganic and the organic things remarkably differ from each other, they are both physical; but mind is generally supposed to be not at all a material or physical thing. So the gap between mind and life is much wider than the gap between life and matter.

Some philosophers would challenge the above distinction and would deny the existence of mental events different from the physical events. But generally the existence of mental events is conceded to and they are distinguished from the physical events.

Let us examine what happens when we hear the ringing of a bell. The bell rings; Sound waves travel from the bell and strike our eardrums. Then certain physiological and neural processes occur inside our ears and the brains. Ultimately we hear the sound; we have an auditory sensation.

When we see some object, light-waves from the object impinge upon our retinas. Our optic nerves and then the occipital lobes are stimulated and there after the visual sensation occurs. Similar is the case with all other sensations. Now whatever happens outside and inside our bodies are physical events, which occur in space and can be observed by others with appropriate scientific instruments. But the sensation that we get, the awareness, the state of consciousness is something absolutely different from the physical events that precede it. It is a mental event. When we 'see' red spots before our eyes, then also we are having sensations, though the stimuli do not come from outside the body. Again, when we are thinking or reviving some past memories, forming images or experiencing some emotions, then also some mental events are occurring, which are not physical.

The mental events differ from the physical events on the following points ;

1. Physical things and events are locatable in space, but mental events are not locatable in space. The stimuli of our sensations, the processes that go on in the body or in the brain prior to our having the sensation are all physical events which can be located; but the sensations, feelings and thoughts are mental events to which the categories of spatiality is not applicable. They cannot be said to be at some place either inside or outside the body. They are neither extended nor have any shape or size in the literal sense.

2. Physical things and events are publicly observable; but mental events, i.e., state of one's consciousness can be experienced by only the person having those states of consciousness. All the processes of the body and brain that precede or accompany any sensation are observable, though at present there may be technical difficulties. The surgeons can possibly observe every minute change in the brain that is going on in me. But what they cannot observe are the states of my consciousness. It is I and I alone who can experience them. My thinking, feeling and willing are experiences which are available to none other than myself. My brain states can be observed by others; but my mental states cannot be experienced by others. They are two different kinds of phenomena. With the help of an 'auto cerebroscope' machine it is possible for the same person to see his own brain-states and also experience his mental-states; but the two phenomena are different from each other.

Now the question arises, is it logically possible though not actually possible for one to feel the pain of somebody else?

Of course, we may empathise so strongly with some one having a pain that we may actually feel a pain ourselves and we do say that "we feel your pain". But it cannot be literally the same pain which two people feel. The two pains of the two persons are different, each feeling his own pain.

It is also imaginable that in a world different from ours when A is hit or stabbed, B feels the pain and not A. This is logically possible, though empirically it is never the case.

If we use the expression A's pain as the subsequent pain, whoever may feel it, of A's body being injured, then we can say that B feels A's pain. But in the fundamental sense, whatever pain under whatever circumstance B feels is B's pain and not A's. The cause of my pain may not be related to my body. But the pain itself, if felt by me is *ipso facto* mine. If two people have toothache, there are two experiences and the two pains are different. Each feels his own pain. 'My pain' is the same as 'the pain I feel'. It is not logically possible, therefore, that in this sense, B can ever feel A's pain and vice versa. 'Whatever pain B feels is B's pain' is an analytic statement, since it becomes 'the pain that B feels is the pain that B feels'.

*Q. 62. How do we have knowledge of other minds ?*

*Ans. :* A much discussed problem in contemporary philosophy is how do we know that other people have minds at all, since it is logically impossible to have a direct experience of their mental states. I know directly only my mental states and all that I know of others is about their behaviours. It is, of course, possible to know directly the physiological and neural changes occurring in them. But surely, they are not their mental states. So our knowledge of other minds is based on inference. No inference is necessary for knowing that I am having a pain experience, but it is necessarily involved in knowing that somebody else is having such an experience, because I can directly know only his bodily behaviours and some of his physiological and neural states. It is, again, not an ordinary inference, where the truth of our conclusion is directly verifiable. By seeing smoke, I infer the existence of fire and this conclusion is also directly verifiable. But by seeing the bodily behaviour of somebody, if I infer that he is having a pain



experience, I cannot verify the truth of this conclusion. The truth of the conclusion may be challenged by proposing that the person concerned may be just like an automaton, a computer, adjusted to exhibit the physical symptoms having absolutely no feeling. Against this supposition we have nothing relevant to point out as evidence except adding more and more physical symptoms.

The following points on this problem are worth noting :

1. Some suggest that when I talk about my pain it is about my mental state, but when I talk about somebody else's pain, it is about his behaviour. This suggestion is obviously unsatisfactory, because we do not really mean by somebody's pain merely his behaviour.

2. It is suggested that the word 'know' does not always mean having direct experience. We know that there is radio-activity at a place, not by feeling radio-activity, but by observing its evidence. So also we know somebody else's pain not by feeling his pain but by observing his behaviours, which are the evidences in this case. This argument is not considered convincing, because if I am a clever actor, I can exhibit all pain behaviours without feeling the pain.

3. It may be pointed out that the bodily behaviours may misguide, but the neuro-physiological evidences would not. There is a difference in the neuro-physiological changes in the two cases, i.e., the sufferer and the actor. This is true, but it may be asked how do I know that as neuro-physiological symptoms accompany my pain feeling, so also somebody else's neuro-physiological symptoms accompany his pain feeling. I know that the correlation is true in my case, but I do not know that it is also true in other cases.

It seems impossible to know that somebody is in pain, if this knowledge requires that we should feel his pain. But this conception of human knowledge appears unduly narrow. We do take inferential knowledge about electrons, protons etc. as knowledge, though they are not directly observable. Well



grounded belief without complete evidence is also reckoned as knowledge, though it cannot be as certain a knowledge as that got by direct experience. We have certain knowledge of our own pain. We cannot have this sort of knowledge of the pain of others. But our knowledge of the uniformity of natural processes and the similarity of the neuro-physiological conditions along with the behaviours of other persons with those of ours when we feel pain do provide very strong grounds for our belief that they are having pain experience. In any case, there is no reason to suppose that other people are not feeling pain like us, when they exhibit all the symptoms of pain, as those of ours.

*Q. 63. How do we know that we are seeing the same colour ?*

*Ans. :* Some people are colour-blind. For red-green blind people both red and green objects appear to be of the same colour. A completely colour-blind person sees all objects of all colour as different shades of white and black. These people cannot imagine the colours they are unable to see. But we as well as he can detect this defect because it is found that he cannot make certain colour discriminations which other people can make.

Now the question: arises do two normal persons see the same colour green when both of them see the same patch of grass ? If one of them is a victim of 'inverted spectrum', while the other is not, then one sees red where the other sees green and vice versa. Where one sees yellow, the other sees blue and vice versa. When one sees a certain colour the other sees its complementary colour. But both of them would use the same name for the colour that they are seeing, though their sense-experiences are different. Both of them have learnt to use the word 'green' for the colour of grass tree etc., to use word 'blue' for the colour of sky, sea etc. So it is not possible to know whether their colour experiences are same or different. The difference, if any, is undetectable as long as it is systematic,

If the difference in colour experience is dependent on the difference in the structure of the eyes, then by mutual exchange of eyes, when that is technically possible, the victims of 'inverted spectrum' can be singled out, because with their eyes we shall see grass as red and gold as blue. But if the difference in colour experience is dependent on the difference in the brain structure, then we cannot possibly know whether others are also seeing the same colour which we see or not. If the brain of A be grafted on B, then B no longer retains the memory of B to compare his present experience with his past experiences. Now, B has all the memories, dispositional traits and personality of A. So no comparison is possible. To settle the issue, no verification procedure seems suitable.

*Q. 64. Explain with examples the reductive or "nothing but" Fallacy. In what sense Materialism and Behaviourism are instances of this fallacy?*

*Ans. :* When two things or events or processes occur together invariably, we have a tendency to reduce the one to the other. We say one is nothing but the other. This is called the reductive or "nothing but" fallacy. When A is a necessary condition for the occurrence of B, i.e., when B can never occur without A, and presence of A invariably results in B, then we are tempted to say that B is nothing but A. But obviously this is a fallacy, because the necessary condition and the event must be two things, not one and the same thing.

In spite of the obviousness of the fallacy, many scholars have been victims to this. Thoughts are said to be nothing but electro-chemical impulse through neurons to the brain, colours are said to be nothing but wave-lengths of light. Heat is said to be nothing but the motion of molecules and so on.

Scientific investigation has shown that consciousness is dependent on brain activity. If a certain part of brain be cut out, a certain aspect of consciousness would never occur. If the nerve-endings are not stimulated, we cannot get pain sensation.

This is true, but because of this we cannot say that pain sensation is same as stimulation of nerve-endings. We know that we are feeling pain without knowing that the nerve-endings have been stimulated.

The physicist defines colour-words in terms of wavelength of light. It suits his purpose of ascertaining the physical conditions under which we normally see the colours. He has the freedom of stipulation. But no definition can eliminate existence, and the experience of colour exists, beside the existence of its causal conditions, on which it is utterly dependent. We had the experience of colour long before the knowledge that the physicist provides.

The physicist says "Heat is the motion of molecules". It does not mean that heat-experience is exactly the same as the motion of molecules. It only means that we cannot experience heat unless the molecules be in rapid motion. Since molecules cannot be observed directly, one may even define heat in terms of height of the mercury column in a tube for the sake of convenience in empirical observation. There is reliable correlation up to a certain point between the height of the mercury column, the molecular motion and the heat. But all the three events exist. The height of the mercury column is the indicator of the molecular motion which is the causal condition of the normal experience of heat. In this case, we also know that the correlation is not perfect. We feel extreme heat, while suffering from high fever, though the mercury column at the time is low.

Sometimes, some people ask : What is the correct definition of 'heat' then ? What is its real meaning ? We know that words do not have any real or unreal meaning. They have only conventional meaning, i. e., the meaning which the users of the words give them. 'Heat' is verbally an indefinable word and traditionally it means the experience which we all know. Scientists use the word 'heat' in the sense of molecular motion for a special purpose. Both are legitimate meanings, but we should not confuse one with the other and then deny the

existence of either the experience or the molecular motion. Both are closely related but distinct phenomena. To suppose them to be one and the same thing or to deny any one of them is to commit the reductive or nothing but fallacy.

### **Materialism :**

'Materialism' is often briefly expressed as "All matter no mind".

It may mean, mind as a substance does not exist. If somebody does not deny the existence of mental processes, but denies only the existence of the mind as a substance, he is however not considered as a materialist. He admits the existence of mind as the totality of mental processes.

If somebody proposes to deny even the existence of mental processes, it is a self-refuting view, because his own view, a mental process, is being admitted here to exist.

So, generally, by 'materialism' is meant that the processes like thoughts, sensations etc. occur, but they are material, physical processes, not mental processes. Here again, if the word 'material' or 'physical' is being used to cover all processes, i. e., what the common man says to be 'material' as well as what he says to be 'mental', then an obvious distinction between the two kinds of processes is being unduly ignored. The common man distinguishes them, because the former is publicly observable and locatable in space whereas the latter is not so.

Usually, 'materialism' means the view that there are some processes which are not locatable in space and the knowledge of them is available solely to the person concerned, but they are utterly dependent upon physical conditions. As such, the view does not commit the reductive fallacy. But because of this if one identifies them and treats the non-locatable processes as nothing but the physical processes, one commits the reductive fallacy.

Materialism, as a psychological doctrine that all people are interested in material things, and as an ethical doctrine that

all people should be interested in material things, is irrelevant here for discussion.

### **Behaviourism :**

Behaviourism in psychology is the counterpart of materialism in metaphysics. Generally, it is the name given to the method which formulates psychological laws basing on data derived solely from publicly observable behaviours and not on data derived from introspection of one's own mental states. As a psychological method, it is irrelevant here for discussion. But if 'behaviour' covers all behaviours, i.e., what is commonly said to be physical as well as mental, then we are blatantly obliterating an obvious distinction. And if we identify the publicly observable behaviours with the privately observable ones, then we commit the reductive fallacy.

*Q. 65. Discuss on the relation between the Mental and the Physical.*

*Ans.* Admittedly there are mental events and processes as well as physical events and processes, though they are liable to be interpreted in different manners.

Several views have been held with regard to the relation between these two kinds of phenomena.

### **I. Interactionism :**

According to this view, physical events, e.g., a blow, cause mental events, e.g., pain. Light waves impinge upon the retina causing visual sensations; sound waves strike the eardrums causing auditory sensations and so on. Again, mental events, e.g., feeling frightened, cause physical events, e.g., rapid heart beats. My decision to leave the room causes my legs to move; my wish to eat the banana causes my hands to peel the skin and so on. Thus body and mind interact through the medium of the brain, which of course, is also physical.

We face difficulties when we try to understand how the terminal physical events in the brain which is spatial and locatable suddenly results in a mental event which is non-spatial and non-locatable or how a non-physical mental event, that cannot possibly touch anything physical, none the less affects

the brain resulting in the movement of the body. We fail to visualize the situation for the very good reason that mental events cannot be visualized.

The classical billiard-ball examples of causation, i.e., one billiard-ball striking another causing it to move, gives us the *acting upon* concept of causation. These days, the concept of causation is much broader, because it also includes action at a distance. The sun does not touch the planets, but causes their revolving round it. Magnetism attracts iron at a distance. Here the causal relation seems to be undeniable, but how does it work is not yet clearly explained. It seems, 'they belong to the category of ultimate laws of nature which just happen but cannot be explained. The interaction between the mind and body also seems to be one such fact.

Another difficulty arises from our belief in the law of conservation of energy. It is a well-established law of physics that the total amount of physical energy in the universe is constant. If volition causes movement in the body, physical energy seems to be created and if a blow causes pain, physical energy seems to be lost. But no such gain or loss has been detected. So the conclusion is drawn that mind and matter do not affect each other.

It is pointed out, however, that this conclusion does not follow from the law of conservation of energy, and the experimental facts that the total energy of a conservative system, e.g., a gun, a cartridge and a bullet; or a bulb, a battery and a piece of wire, remains constant. Even if we assume that the human body is a conservative system, there is no need to presume that there is transfer of energy from the body to the mind or from the mind to the body. The law of conservation of energy does not imply transfer of energy from anything to anything else. It only states. If there be such a transfer, the loss of energy in one is equivalent to the gain in the other. So the law of conservation of energy is not incompatible with the interaction view of mind and body.



## 2. Psychophysical parallelism :

According to this view, there is no causal relation between mind and body. My volition is not the cause of the movement of my legs and the light waves impinging on my retina is not the cause of my having a colour sensation. The cause of any physical event is another physical event and they form an unbroken chain from the start to the end. When, however, some specific physical events in the brain occur, corresponding to them mental events start occurring as a kind of running accompaniment, and continue as long as those specific brain events occur. Thus for every mental event, there is a physical correlate, but for many physical events there is no corresponding mental events. As long as the mental events run parallel to the brain events, there is one to one correlation so that if any of these specific brain events were repeated, exactly the corresponding mental event would also be repeated simultaneously.

According to the interactionist, I will to move out, and this volition is the cause of the movement of my legs. According to the parallelist, the mental state, volition, is not a part of the causal chain. What is in the causal chain is its physical correlate, the brain state. It is admitted, however, that volition is also a necessary condition and a part of the sufficient condition for the movement of the legs and the effect would not have occurred without the volition. But the cause here is the physical state, not the corresponding mental state.

It is pointed out that the difference between the interactionist and the parallelist is verbal and not factual. The account of mind-body relation is the same, but what the interactionist describes as a cause or a causal condition of a physical event, the parallelist describes it as a necessary condition, but not a causal condition. The reason for the hesitation of the parallelist to consider mental events as causes of the physical events and vice-versa appears to be the acting upon view of causation. Since this view even in the physical realm, e. g., in

case of gravitation, magnetism etc. is considered too narrow these days, parallelism is no longer upheld as a contending view for the mind-body relation.

### 3. Epiphenomenalism :

According to this view, the relation of the mind to the body is like the shadow of a person to the person. Mental events are epiphenomena or by-products of brain-states. The physical causes the mental, not vice-versa. Except giving us the pleasure of picture-thinking, this view solves none of the difficulties of interactionism and parallelism. If we hold that the physical causes the mental, there is no reason why we should refuse to hold that the mental causes the physical.

According to epiphenomenalism, the course of the world would have been exactly the same even if mind never existed. All the events that we attribute to intellectual activities, e. g., writing books, delivering speeches, composing music and constructing intricate machines are supposed by the epiphenomenalist to be the outcome of the physical brain activities. The accompanying mental events have no contribution at all. Since it is empirically impossible to cut out the accompanying mental events that invariably occur along with the brain activities, the claim of the epiphenomenalist cannot be verified. But it appears as an obvious fact of reality that the world is what it is because minds exist.

### 4. The double-aspect theory :

According to this view, mental and physical are the two aspects of the one and the same substance, which is unknowable. They are like two different reflections in two different kinds of mirrors of the same object. What the object itself, the substance, is a mystery. So this view instead of saying that the correlation between mind and body cannot be explained and is perhaps an ultimate law of nature, postulates a mysterious substance to explain the correlation. Attempting to explain one inexplicable fact with the help of another inexplicable hypothesis is no explanation at all.

### 5. The Identity theory :

According to this view, mental states are identical with certain physical states of the brain. They are not two correlated events, but one and the same event. Here the identity is *numerical identity* like that of the Morning star and the Evening star, which refer to the same planet Venus.

It is argued that the mental and the physical cannot numerically be the same, because they have obviously different characteristics. An awareness of a patch of colour can be clear or confused, but cannot be swift or slow. A molecular movement in the brain can be swift or slow but cannot be clear or confused. So an awareness, a mental event, cannot be exactly the same as a molecular movement in the brain, a physical event.

Let us consider how the objections to this view are met by its supporters.

1. The words describing mental events and those describing physical events obviously do not have the same meaning. So they cannot refer to the same thing.

To this it is replied that two words or phrases having different meanings may none the less refer to the same thing. 'Human being' and 'featherless biped' have different meanings but denote the same thing. 'The Vice-President of India' and 'the Chairman of the Rajya Sabha of India' are not two but one person, though the meanings of the two phrases are different. Similarly, when I say that I am having a sensation, I am not saying that a brain activity is going on in me. But yet what is happening is just the same.

2. Two things cannot be numerically identical, if we can know something about the one without knowing that about the other.

The supporters of the view do not admit this to be correct. People know the flash of light in the sky to be lightning

without knowing anything about electrical discharge. But the scientists believe that lightning is nothing but electrical discharge. Somebody may see a red object in the sky without knowing it to be a balloon, but yet what he is seeing is the balloon and only the balloon. We may be introduced to somebody as the Principal of a college. We know that the father of our friend is a member of the syndicate. If these two supposedly two persons are the one and the same person, then we now know that the person to whom we were introduced is the father of our friend, who is the Principal of a College and a member of the syndicate. Similarly, a person may talk about his thoughts, feelings etc. without knowing anything about his brain processes. But the two are identical just the same, though many people may not know them to be so.

3. It is logically possible for mental events to occur without physical events. So the existence of the one is possible without the other.

The supporters of this view claim empirical identity between the mental and the physical. If mental events will be empirically experienced to be occurring without physical events, then of course, the identity theory will be disproved and discarded. But this is not the case so far. The logical possibility of their occurring unconnectedly leaves the theory unimpaired.

4. If two things are identical, then we cannot utter any true statement about the one, which is not also true about the other. Looking at a deep colour for sometime, I can say that I expect an after image. But I have no knowledge about my brain state and have no expectation about it.

The supporters of the view agree to what is said about the colour and the brain process in the above case. But it is so, because the meaning of the two words are not identical. What is claimed here is not meaning-identity but empirical identity. Nevertheless, the after-image is the brain process just the same. I may expect to meet the Principal of the

College, not the father of my friend or a member of the syndicate, since I do not know him to be so. But the person I am expecting is the father of my friend and a member of the syndicate just the same. There is difference in meaning of the phrases, but the denotation remains the same. So though we expect the after-image and not the brain process, it does not prove that they are different.

So far, the identity-theorists have met the objections raised against their view. The following objection, however, has not been convincingly met by them. This renders the theory unacceptable.

5. A mental event has characteristics that a physical event lacks and vice versa. In the face of this, one cannot be numerically identical with the other. Numerical identity between two things implies that exactly whatever characteristics are true of the one are factually also true of the other.

(i) Brain processes are located in the brain, i.e., they occur in space. Pain sensations are also located, somewhere in the head or leg or back etc., i.e., a part of the body. But the awareness of the pain, a thought, a feeling, i.e., a conscious state cannot be meaningfully located anywhere in space. Thus, a characteristic that is true of the physical event does not in fact characterise the mental event. The physical event is present at a place, but the mental event is not there. So they cannot be identical. In the case of all the examples cited by the identity theorists, the two objects, man and featherless biped, morning star and evening star, lightning and electrical discharge, the two things are always at the same place at the same time.

(ii) Brain processes are publicly observable events. With technical advancements, it is being made possible to observe more and more details of these processes. But conscious states are purely private events. Nobody can have my pain or thought except myself. Others can infer and know what

sort of pain or thought I am having; but cannot have the same pain or thought that I am having. The knowledge of somebody else's pain may not be private, but the experience itself is. Thus a characteristic that is true of the physical is not true of the mental and vice versa. So the two cannot be identical.

(iii) On the one hand, we cannot assert that some brain events are knowable by introspection as the case with mental events. Thus physical events are not mental. On the other hand, we cannot also assert that mental events have shape or size or extension as the physical events have. Thus mental events are not physical.

We conclude, therefore, that the identity theory is unacceptable.

*Q. 66. Distinguish between the body, the mind and the self.*

*Ans. The Body :* Physical events are the changes which physical things undergo in course of time. They constitute the history of the physical things. Molecular changes are constantly going on. A piece of rock gradually wears out. A living organism first grows and then deteriorates. A house is built or repaired or demolished. The tables and chairs are polished or painted. All these are physical events which occur in the history of the physical things concerned. Light-waves, sound-waves, rainbows, lightnings etc. are also physical events. Physical events have definite locations in space and are publicly observable. A physical thing exists in space, has a certain mass, is a collection of molecules. A living thing, an organism, a body is also a collection of organic molecules. All the changes that take place in the body are physical events having spatial locations and in principle are publicly observable.

My own body, as distinguished from all other bodies in the world, has a special significance for me ; (i) It is the only body from which I cannot get away. (ii) I cannot directly see all its parts. (iii) It is the only body of which I have kinesthetic



and somatic sense-experiences (iv) It is the only body which is directly under my control. My control of other bodies and physical things is possible only with the help of my own body.

*The Mind* : Mental events like thought, feeling, will, imagination etc. neither have spatial location nor are publicly observable. Traditional philosophers are of opinion that these belong to minds. They constitute the history of minds just as the physical events constitute the history of physical things. The mind is a substance, a substratum for mental events. Though obviously of different nature from the body, it is none the less a substance. This is the mental-substance theory of mind.

According to this theory, a human being consists of two substances, a body and a mind. Of the two substances, however, the latter is more intimately connected with him. I say 'I have a body and a mind', but to say 'I am a mind' is not incorrect, while to say 'I am a body' is incorrect. In language, sometimes, the 'I' refers to the body, e.g., 'I am six feet tall or I weigh 150 lbs; sometimes, it refers to the mind, e.g., I am thinking or I am imagining. But while my 'essential self' consists in the mind, the body is only an invariable accompaniment. The mind, of course, is a non-material substance and does not exist anywhere either inside or outside the body, but still its existence appears to be undeniable. Thus the mental substance, the existence of which cannot be verified, appears rather mysterious, and the view has been vehemently criticised.

*The Self* : According to Thomas Reid, I am not simply thought, action or feeling that changes every moment, but one that thinks, acts and feels. I am one that has a continued existence while these successive states of consciousness occur. I am one that owns these experiences and ties them together. The experiencer is different from the experiences. The owner is different from what it owns. This is the ownership-view of the self.

According to David Hume, introspection never discovers any trace of a self distinguished from the states of consciousness. From birth to death, I experience a series of states of consciousness and nothing more besides this successive experience. So the self is merely a bundle of experiences. This is the bundle theory of the self.

Several objections have been raised against the view of Hume.

1. Thoughts and feelings cannot be just there belonging to none. They are experiences of somebody. No experience is possible without an experiencer, i.e., an individual that has the experiences. So Hume's analysis of the self as a mere collection of experiences is incomplete and unsatisfactory.

2. If the ownership thesis is abandoned, we cannot have any ground to bundle some experiences together and call them myself as distinguished from the experiences bundled to form yourself. The difference between these two bundles, however, is obvious and undeniable. My experiences and your experiences never get mixed up.

3. Hume's analysis of self appears self-contradictory. 'I' as the owner of experiences is discarded, but still the 'I' the knower, i.e., the owner of the experience of knowledge tries to know by introspection, i.e., inner experience, what is going on within. The experiences which this 'I' finds are surely its own experiences, but still they are declared to be of no one, because the ownership view is discarded.

4. It is pointed out that Hume's analysis of the self is defective. When I have an experience, it is not just an experience, but it is my experience. Further, I am also simultaneously aware of myself, which is having the experience. I am aware that it is a continuing reality persisting throughout the series of experiences. Thus the existence of a self besides its experiences is undeniable.

The ownership-view of the self, however, is likely to be mis-interpreted by an analogy of relations thus—the self : to its experiences : the owner : to his possessions, e.g., a building or land or properties etc. The relation of the self to its experiences, however, appears to be a unique relation, which is not like any other relation and cannot be adequately understood by the above analogy. The nature of the self and its relation to its experiences has remained as one of the most perplexing issues in philosophy.

*Q. 67. Under what conditions a human being may be said to be the same person ?*

*Ans. :* The following criteria of personal identity are suggested.

### **1. Physical criterion :**

A human being remains the same person as long as he has the same body. A man's body is the empirical evidence of the existence of the man. He cannot dissociate from his body as long as he lives. The body, of course, changes in shape, size etc. and sometimes unrecognisably; but still it remains the same body, because it has a continuous existence without a break. The criterion ignores the mental changes that may take place in the person. He may suffer from total amnesia and forget all his past experiences, even his name, but he is taken to be the same person as long as his body remains the same. That is what his friends and relatives do.

There are, however, innumerable stories about the transformation of bodies : a prince is transformed into a bear ; a magician transforms himself into different animals and so on. Such transformation appears empirically impossible, but it is imaginable and logically possible. If it happened, surely we would take the man concerned to be the same person, in spite of his having an altogether different body from his former one, because of the continuity of his memory and mental traits,

It may be pointed out that in these cases, there is also a physical continuity. There is no break in the physical existence of the body inspite of enormous and radical changes in it.

Let us now consider a case of break in physical existence. Suppose, a man melts into thin air in front of us and then reappears after a moment at a place thousands of miles away from us. Except this mysterious change of location, there is no other change in his physical and mental traits. We would take him to be the same person though this sudden change of location and break in physical continuity is inexplicable.

Or suppose, a man dies and his dead body is buried or burnt. But he reappears again with an exactly similar or altogether different body with his memory and personal traits intact. Then we would, perhaps, still take him to be the same person with a new or different body.

It appears that though ordinarily we take bodily continuity to be the criterion of personal identity, it is not the only criterion. Believers in immortality hold that soul or consciousness of the person survives physical death. The only justification for holding apparently two different persons to be one and the same seems to be memory. If a child claims to be Mahatma Gandhi in his previous life, he must give evidence of retaining at least some memory of his previous life, otherwise the claim is ungrounded.

## **2 Memory criterion :**

As long as there is continuity of the body, we do not seek for any further criterion for personal identity. The continuity of the body is considered to be sufficient condition to take the person concerned to be the same in spite of lapses of memory. When this condition is not fulfilled, we fall upon the memory criterion. If there be continuity in consciousness, the person concerned is considered to be the same. Memory criterion by itself, however, labours under several difficulties,

(i) While receiving a distinction in college, a man retains the memory that he was once punished in school for a minor offence. While becoming a Minister, the man remembers that he received the distinction in college, but does not remember to have ever been punished in school. If we employ the memory criterion alone, then he is not the same person who was punished in school. But logically he is the same person who was punished in school.

(ii) Memory presupposes an enduring self that has the memory. Thus this criterion is inextricably webbed in the difficulties of the problem of the self.

(iii) Memory cannot be taken as a necessary condition constituting personal identity because it presupposes personal identity. Without prior existence of personal identity, no consciousness of it, no memory of its history is possible.

*Q. 68. Is it possible for mind to exist without body ?*

*Ans. :* Some Philosophers hold that it is logically possible for mind to exist without body and some hold that it is not possible.

The most decisive test of this for me will come only when I die. If I woke up again after my death in some environment whatever that be, then the possibility of the existence of mind without body has been verified. Indirect evidence of such a possibility is also imaginable. Somebody before death promises to communicate with us after death in certain manner and he does so after his death. In that case, we would be tempted to grant the possibility of the existence of mind without body. If no such evidence comes forth, then also, of course, we cannot say that immortality or life after death has been disproved.

Life after death can be imagined as the existence of mind either with another body or with no body. In both the cases, however, we have lots of difficulties in making up our mind as to what sort of a life it would be,

If we think of a new body, we cannot decide whether this new body is related to the mind in the same way as the old body was related to the mind or not. If it is a completely new body with new brain, with new mental traits, tendencies, habits and inclinations, there are the difficulties of identifying and recognising him to be the same person who has survived after death. If the new body should be similar to the old one, it is difficult to conceive in what respects the two bodies be similar and how far. People believing in immortality, i. e., existence of mind in a new body are very vague in their conception of the new body and whether that body grows and dies again to be replaced by a further new body.

If we imagine a disembodied existence, it is again difficult how to conceive of thoughts, feelings, memories and sensations without there being a body at all. We are so accustomed to conceive of all these with a body that it is not possible to imagine how they would occur without a body at all. It almost appears impossible to be able to imagine how seeing, hearing, pain, emotion etc. can go on independently of a body or a brain.

Thus it would appear that it is impossible even logically for mind to exist without body.

●



## Our Knowledge of the Physical World

*Q. 69. What is Naive Realism ? Why is it not acceptable as the right view on our knowledge of the physical world ?*

*Ans. :* Naive Realism is the name given in philosophical circle to the view on the physical world of an ordinary man, who has not bothered himself with the problems involved in perception.

According to this view, (i) There exists a world of physical objects around us, (ii) Our sense-experience gives us knowledge about these objects and thus we can know which statements about them are true. (iii) These objects exist independent of our perception. The world exists even when we are not perceiving. (iv) The physical world is as we perceive it. So our claim to knowledge about it through perception is justified.

However, those who have given some systematic thought over the above points have cast doubts on each of these.

We know that our perception, at least partially, depends on the nature of our sense-organs. If our two eyes were placed on the two sides of the head or had different rods or cones, we would see things differently. Similar is the case with our other sense organs. Further, some beings might have other sense-organs and to them the world surely would appear very different from what it appears to us. So we have no justification in holding that really the physical world is very much the same as we perceive it to be.

We know that there are cases of illusions and we sometimes perceive things different from what we perceive them to

be at other times. A straight stick half immersed in water looks bent. Blue dresses in artificial yellowish light look black. The same whistle of the train seems to be different in pitch as the train approaches towards or recedes from us. The same vessel of water appears to be warm to one hand and cold to the other, if the former be holding an ice-bag but the latter a hot-water-bag immediately before feeling the water of the vessel.

Sometimes there are cases of hallucinations and we perceive things which are not at all there, e.g., a drunken man sees pink rats; an anxiously waiting mother hears the footsteps of the son, though the child is nowhere near about.

Thus we come to realise that our sense-organs sometimes deceive us. And if this is admitted, one may, like Descartes, legitimately raise the question: what guarantee is there then that we are not being deceived by our sense-organs all the time? It is possible that we mistakenly perceive a world though really there is none. Or possibly we are dreaming all the time of a world which is very different from what we shall find when awoken.

Thus a little reflective thinking leads us to doubt all the assumptions of the naive realist and the view appears unacceptable.

*Q. 70 Critically examine Representative Realism as a view on our knowledge of the physical world.*

*Ans. :* John Locke is considered to be the principal exponent of Representative Realism. He believes that there are physical things existing independently of our perception and they are not exactly as they appear to us. The qualities that we attribute to physical things can be classified as primary and secondary.

Primary qualities are those qualities of an object which exist in the thing itself independently of our perception. Shape, size, weight etc. are primary qualities intrinsic to the thing and can be measured. A thing of round shape, for example,

is really round and we also perceive it as round. The relation between the quality in the thing and our sense experience of it is one of resemblance.

Secondary qualities are those qualities of an object which depend on the nature of our sense-organs and the circumstances. Colour, smell, taste and tactual qualities of the same thing vary considerably with the variation of sense-organs and circumstances. Blood, for example, appears to be red to a normal person in ordinary light, but it appears to be a shade of orange colour to a man suffering from jaundice and a shade of grey to a colour-blind man. It appears to be chocolate colour in twilight and black in greater darkness. Looked through a microscope, it appears to be transparent with some red flecks. So Locke holds that a secondary quality is not really a quality of the object. It is rather a 'power' of the object that produces certain 'ideas' or sense-experiences in the perceiver depending on the nature of his sense-organs and the circumstances. So secondary qualities are qualities of the objects only in a derived sense.

George Berkeley criticises the distinction drawn between primary and secondary qualities mainly on two grounds.

### 1. Inseparability :-

Primary and secondary qualities are mutually inseparable. Shape and colour, for example, always go together. Shape is the boundary of colour and colour fills the space outlined by shape. One without the other is unimaginable.

### 2. Variability :

The primary qualities are as variable as the secondary qualities depending on the environment and the internal condition of the observer. The shape of a coin appears to be different when viewed from different angles. The size of a thing appears different when viewed from different distances. The weight of a thing appears to be different when we are tired or not so. So all qualities are subjective and secondary in this sense.

If it is said that a thing has a definite shape, size and weight, but it only appears different under different circumstances, we can also say exactly the same thing about its colour and smell etc. We can say that blood is always red, though it appears to be different under different circumstances. So all qualities are objective and primary in this sense.

Locke held that the primary qualities are measurable, but the secondary qualities are not so.

But these days the secondary qualities are also measurable. So this criterion of the distinction between the two does not hold good.

Now-a-days a distinction is made between the 'sensible experience' and its 'physical basis'. Colour, for example, as a sensible experience is indefinable except ostensively, but in the physicist's sense of colour, i. e., the physical basis of colour is not only definable in terms of wave-lengths of light but also measurable. Exactly the same consideration is, of course, equally well applicable in the case of shape, size etc. also. The coin has physical shape. round; and a sensible both round and elliptical. So in both the cases of the so-called primary and secondary qualities, we may talk about the physical or primary aspect and the experienced or secondary aspect. Such a distinction, however, is obviously not the distinction which Locke made between the primary and secondary qualities.

### 3. Resemblance :

According to Locke, our sense-experience of primary qualities resemble the qualities really existing in the things, but our sense-experience of secondary qualities do not resemble any qualities really existing in the things. This is so, because, there are no secondary qualities existing in the things; the things have only the power to produce certain sense-experiences. Berkeley points out that it is logically impossible to know this to be the case, because our knowledge is confined to only our sense-experience and nothing but the sense-experience.

We can never know what the objects outside our sense-experiences are. Comparison of two items to see whether they resemble or not is possible only when we have knowledge of both the items. Further, Berkeley points out that one sense experience can be compared to another sense-experience. It cannot be compared with its supposed cause.

#### 4. Causality :

Since we can never know the object as it is outside our experience, we cannot also know whether it causes our sense-experience. It may be argued that sense experience must have some cause. True, but to know A to be the cause of B, we have to be acquainted with both A and B. Here we know only the B, i.e., sense-experience and never A, i.e., the object beyond sense experience. We do not even know whether A exists or not, what to speak of its causing B.

Karl Pearson uses the analogy of the telephone exchange to illustrate the situation. Each one of us is like a telephone operator always confined in his room and having absolutely no knowledge of anything beyond the sounds coming through the telephone wires, which he can also preserve by phonographs. Such an operator can analyse, classify, store up the sounds and draw inferences. But the data are confined to the messages received and nothing besides. Obviously, his conceptions about the outside world would be very different from the real world. So is the case with each one of us. Our brain is a reservoir of stored up and immediate sense-impressions received through all sorts of sensory nerves. But what is symbolised by the sense impressions, i.e., the reality remains for ever unknown and unknowable.

It may be seen that the telephone exchange theory assumes the existence of an outside world to stimulate our sense-organs. But proceeding further, it denies any knowledge of the world. The nerves, the sense-organs and brain are physical things, which must be there for the analogy to hold good. And again, if the account is to be true, then we have to

deny any knowledge of them. So it is a self-contradictory account that cannot be true.

*Q. 71. Explain Berkeley's views on the nature of Physical things. How does he distinguish hallucination and illusion from veridical perception?*

*Ans. :* According to Berkeley, Locke had no good reason to assert that a physical world outside our mind exists, and causes our sense experiences. Even if it existed, we could not know it. In fact, all that we know to exist are the experiences. There are chair-experiences, book-experiences, tree-experiences etc. and these make the world we know. What we do actually know cannot be divided into the experience of the chair and the physical chair itself, existing independently of our experience.

According to Berkeley, the word 'chair' stands for not any physical object existing independently of our experiences, but for a group of chairish experiences in a recurring pattern. This is the case with all the words like 'table', 'house', 'mountain', 'river' etc., which in ordinary language we call physical object words.

We say a one rupee coin is over there when our experiences fall into the following pattern.

1. We have a white-colour experience of roundish shape, which varies in a systematic way. It appears round when viewed from above it, but appears elliptical and smaller when viewed from a distance. The greater the distance from which we view, the smaller the apparent size and the lesser the apparent breadth of the elliptical shape. If we stand still, neither the shape nor the size changes. But as we approach it, again, it appears bigger and the breadth of the elliptical shape increases so that when viewed from above it, again, it appears round and of the same size that we had experienced first. The whole series of sense-experiences is not only systematic but also predictable. The sense-experiences of any two of our consecutive position resemble each other and the round



apparent shape is the centre from which the ellipticity starts in a progressive distortion series. As long as we view, there is no discontinuity in our experience and our visual experience is corroborated by our tactual experience.

Thus, what we ordinarily say to be a physical object, e.g., the coin, is nothing but a family of sense-experience according to Berkeley. His view is called idealism, because it asserts that all that really exist, are minds and their ideas. There is nothing we know of outside our minds and the sense-experience.

### Hallucination & real thing :

The distinction between a real thing and a hallucination, according to Berkeley, is that in the former case our experiences form an orderly series, a family; but in the latter case the sense-experiences are not members of a family. In the case of a real object, the sense-experiences of one kind, e.g., visual, are not only systematic and predictable, but also are corroborated by the sense-experiences of other kinds, e.g., tactual or auditory. But in the case of hallucination, the sense-experiences of one kind are not corroborated by the sense-experiences of other kinds. The drunken man sees pink rats, but reaching out to touch them does not get the appropriate tactual sensation. The mother eagerly awaiting for the son hears approaching footsteps, but this is not corroborated by appropriate visual sensations. The distinction between perception and hallucination lies in the relation of sense experiences to one another, not in the correspondence between our sense-experiences and something outside them as Locke thought.

In distinguishing the real things from hallucination, Berkeley laid special emphasis on tactual sense-experience. If we saw a door and while entering into it stumbled upon a glass-pane, it was really transparent glass framed in the shape of a door or a looking-glass reflecting a door. If we saw two light posts, but on touching found only one, it was really one light post appearing as two. If we saw one pillar but on touching

found two separate pillars, then it was really two pillars appearing as one. The touch-experience is decisive.

### **Illusion and real thing :**

If the qualities of some parts of a family of sense-experiences are at variance with the qualities of all other parts of the family, there we have an illusion. Here also, according to Berkeley, the touch experience plays a decisive role. A stick, all along felt as straight, looks bent in water and straight at other time. We say that it is really straight, but appears bent in water. This can be also satisfactorily explained by laws of refraction. So we are not tempted to hold that the stick is really bent, but looks and is felt as straight sometimes.

The coin looks elliptical almost always except when we look at it perpendicularly from above, but still we say that the real shape of the coin is round and the elliptical shapes are only appearances. Here we have the support of tactual sensation and also the explanation of optical laws for our assertion.

In some cases, however, the corroboration of the tactual sense-experiences is not available and also there is no general agreement on the criteria to be employed in order to distinguish appearance from reality.

In the case of colour, the condition of maximum predictability is taken as the standard to decide the real colour from the apparent colour of an object. Sunlight provides the condition for maximum possible discrimination. Two colours look the same, e.g., black in artificial light. But one of them may be found to be dark blue and the other black in sunlight. So sunlight is taken as the standard condition to determine the real colour of things. We can predict that dark blue and black colours as seen in sunlight will appear the same black colour in artificial light. But we cannot predict which of the black colours of artificial light will appear as dark blue and which will remain black in sunlight. If we discovered some other light that made further discrimination in the colours that look same in sunlight, then

that light would provide the criterion of maximum discrimination in determining what we say to be the real colour. And that light would be taken as the standard to determine real colour.

The word 'real colour' is likely to lead to the misconception that it is the actual colour in the object whereas the other colours are not so. In fact, all our colour-experiences are dependent on the conditions under which we are having the experiences and this is a uniform characteristic of all of our experiences. So the word 'real colour' is used here in the sense of 'standard colour' and a particular experience is taken as the standard colour, because it is the centre from which the other variations start progressively. It is that which webs the other variations into a systematic pattern, making predictions possible. Thus what is taken as the standard colour has a privilege over the other colour-experiences of the same object.

It should be noted, however, that different criteria are used in different situations for determining the standard.

The colour of an object varies in different lights, in different perspective, in different structures of the sense-organ eye. Obviously, different criteria are necessary in different situations. Further, in common-sense circle, something may be taken as the standard, but in scientific circle, something else may be taken to be the standard. For a layman the standard colour of blood is red, i. e., its colour in sunlight. But for the biologist the standard colour of blood is transparent and red, i. e., the colour as seen through a microscope. In any case, however, the standard condition is taken as such, because it is a privileged condition having more advantages than the others.

*Q. 72 How are the dream-experiences distinguished from the experiences of waking-life according to the idealist ?*

*Ans :* Locke would have said that the dream-experiences do not correspond with physical objects whereas waking-life experiences do correspond with physical objects and thus we

can distinguish between dream and waking-life. But idealists deny any knowledge of things outside our experiences. So we cannot know whether there is any such correspondence, irrespective of the experiences being of waking-life or of dream.

The suggestion that the waking-life experiences are more vivid than dream-experiences is turned down, because sometimes the dream experiences are as vivid as waking-life experiences, but still they are distinguishable. It cannot be also said that none of the experiences of dream are as orderly as those of the waking-life. Failure to follow the laws of nature cannot be taken as a distinctive mark of dream. It seems, there is no qualitative distinction between these two kinds of experience.

We cannot also distinguish dream from waking-life on the ground that the inferences in the former case are false and those in the latter case are true, because we have nothing to determine which inferences are true and which false here. Suppose, our friend is dead in one set of experience and alive in the other set. We have nothing to know for certain which is true and which is false in order to determine that one set of experiences is dream and the other set is waking-life.

If we compare just one set of experiences comprising a dream and another set of experiences of waking-life, we may find that there is no difference in the nature of the two sets. Both appear to be, equally vivid, tangible, connected and so on. But if we compare the total context of all our dreams with that of our waking-life, we find that the distinction between the two is unmistakable. All the experiences of our waking-life are in an ordered pattern. There is continuity through all our waking-experiences, which is lacking in one dream and another. The objects of our waking-life behave in predictable ways, in harmony with the laws of nature and we can always assign a cause for any change of environment. I was in Calcutta yesterday, in Bhubaneswar today, and will fly to Delhi tomorrow and I know how this is happening. But I do not know

how in one dream I was in Calcutta, in the next I was in Bhubaneswar and in the next in Delhi. On waking every time I find to be in my village and the dream-experience do not fit at all with this environment. Dream one fits neither with the steady, constant and continuous life we wake to nor with dream two, three, four etc. The pervasive orderly pattern of waking life is lacking in dreams. It may be conceded that we really had both these two kinds of experience. However, we say that the experiences of waking life are 'real' and the experiences of dreams 'illusory', because the former constitute a privileged class of experiences.

Some philosophers wish to consider the whole waking-life as a long dream. But dreams are recognised as dreams, because they do not fit in with the regular, orderly experiences of our waking-life. If this waking-life is considered as a dream, we do not know with what it does not fit in. Again, even if we concede to consider the whole waking life as a long dream, still we shall have to distinguish the experiences of this long dream from the intermittent experiences which we formerly called dreams and shall have to use a new word for them now. The two sets of experiences will differ as usual.

But suppose, all our dreams are continuous and the totality of our experience is divided into two equal parts. In one, I have all the experiences of a poor man in an Indian village. In the other, I have all the experiences of a rich man in an American city. Both these sets of experiences alternate for equal periods each retaining a continuity and harmony in its sphere of experiences. Then, of course, we shall be at a loss to decide which set is real waking-life and which is merely a long persistent dream.

*Q. 73. Explain the principle 'Esse est percipi'.*

*Ans. :* While I am having a visual, a tactual or any other experience, my experience exists. No experience can exist unexperienced. Now physical objects, according to idealism, are groups of experiences. So, naturally, they cannot be said to exist unexperienced.

Common-sense holds that all the physical things of the world continue to exist even when they are not being experienced by anybody. But idealism denies this and holds the principle '*esse est percipi*', i.e., to be is to be perceived. When we are perceiving a table, i.e., having a family of table experiences, the family of experiences called the table exists. When we are not perceiving the table, we do not have the family of experiences called the table and it does not and cannot exist.

I am having the perception of the table and it exists. If every time I go out and on my return have the perception of the table, it makes no practical difference whether anything existed in the inter-perceptual intervals or not. But theoretically the idealistic principle '*esse est percipi*' has been considered by many as an "utterly absurd" principle and several ways have been devised to refute it. It appears, however, that it is also an "utterly irrefutable" principle.

Suppose, we all perceive the table in a room and then leave the room locked. We assure ourselves that there is no animal organism in the room to perceive the table. Now the question arises : does the table exist in the room ? The idealist would answer : No. Suppose, someone peeps through a crack in the window and finds the table to be there. But then, the idealist would point out that it is so, because he was at that time undoubtedly having a perception, the table experiences.

Now suppose, we keep a motion picture camera in the room setting it on and leave the room. We find from the projected pictures that the table existed unperceived. The idealist points out that here we are only having a series of perceptions : first the perception of the room, table, camera etc., then the perception of a different locality outside the room, then the room, then the perception of pictures on screen etc. Whatever we are claiming to exist is only through perceptions. Neither the table, nor the camera, nor the room, which are all families of experiences, can exist without



perception. They are all on the same footing. Nothing existed unperceived. Our account of the entire series of events is being given in terms of our experiences, and nothing but experiences.

Suppose again, that we light a fire. A piece of fire-wood in the oven is turning into embers. We leave the fire-wood burning and return after some time. We find only embers and no trace of the fire wood. It must have burnt down, while we were not perceiving. So it did exist unperceived to be burnt down.

Or suppose, several times we have seen a house and its shadow. We are placed in such a position now that the shadow is visible, but the house is not visible. Though unperceived, surely the house must be there to cast its shadow.

In these cases, we are depending upon dependable laws of nature for our inference.

The idealist points out that '*esse est percipi*' applies to laws of nature equally well as it does to physical objects. We can argue inductively from observed cases to cases that can be observed. We have seen fire-wood burning down and turning into embers several times, and we can expect to see it to be so this time also. We have seen houses and their shadows several times and hope to see them also this time. But we cannot argue from what we have seen and are seeing to which we do not see. We have never seen what happens unseen even once. So we do not have the requisite data for generalization here.

Thus, we are reduced to the following position. In order to know that physical objects exist unperceived either we take the help of observation or inference.

1. We cannot observe physical objects existing unperceived. None can observe thing unobserved.
2. We cannot infer about physical objects existing unperceived deductively, because from premises about perceived

states of things, we cannot draw a conclusion about their unperceived states.

3. We cannot infer about physical objects existing unperceived inductively, because we cannot get adequate premises even to start the remaining process. We cannot collect by observation even a single case of a thing existing unperceived.

So we cannot know at all that physical objects exist unperceived.

*Q. 74. Distinguish between weak and strong idealism.*

**Ans : Weak Idealism** is the form of idealism which holds that we do not know whether physical objects exist unperceived or not. Our knowledge of the existence of something is derived from either our observation of that thing or from our inference from adequate premises. We cannot know by any of these processes about the existence of unperceived physical things. It is, of course, logically possible to imagine that they exist, but we have no good reason to believe that they do.

**Strong Idealism** is the form of idealism which holds that we know that physical objects do not exist unperceived. No self-contradictory thing can ever exist. It is logically impossible for them to exist, because if we say that physical object exists unperceived, we are contradicting ourselves.

Berkeley's view is described as strong idealism, because he holds that for the logical possibility of physical objects to exist, "it is necessary that you conceive them existing unconceived or unthought of, which is a manifest repugnancy".

The logical impossibility of the physical things to exist unperceived can be derived thus :

- |   |   |   |
|---|---|---|
| I | { | 1. We have acquaintance with physical objects.        |
|   |   | 2. All we can have acquaintance with are experiences. |
|   |   | ∴ 3. Physical objects are experiences.                |

- II { 3. Physical objects are experiences,  
4. Experiences cannot exist unexperienced.  
∴ 5. Physical objects cannot exist unexperienced.

Both these arguments are valid.

1. is a common belief that avoids complete skepticism.
2. is a statement on which both Locke and Berkeley agree.
3. is the conclusion from 1. & 2.
4. is an analytic statement.
5. is the unavoidable conclusion from 3 & 4. and we have to admit that it is logically impossible for physical objects to exist unexperienced.

The conclusion appears bewildering to most of us, because we do not whole-heartedly accept the statement 3, i.e., "Physical objects are experiences". Once we accept it, we cannot avoid conceding to the conclusion.

Some have raised the objection that what is logically impossible cannot even be conceived. We can easily think of physical things existing unperceived. So their unperceived existence cannot be said to be logically impossible. Berkeley's reply to this is that while imagining of books and trees we are imagining as they have been perceived by us. It is logically impossible to conceive them as existing unconceived.

*Q. 75. Critically examine Berkeley's view on the cause of our sense-experiences. Do you consider Berkeley's premises to be sound?*

*Ans. :* There are sense-experiences, and there must be some causes for their occurrence. Locke's answer is: the physical objects existing apart from experiences are the causes of our sense-experiences. Berkeley, of course, cannot give this answer. It would appear that for the possibility of empirical sciences existence of physical objects is a necessary condition. But Berkeley does not think so.

According to Berkeley, science depends on observation and all scientific statements are about sense-experiences, not

about objects and events occurring independently of sense-experiences. It is, of course, said that "If there is lightning, there is thunder. But it only means 'If we have a lightning-experience, we have a thunder-experience'. The so-called uniformity of natural phenomena is a uniformity of sense-experiences. All correlations of events are properly speaking correlations of experiences, because we have no knowledge of anything outside sense-experiences. All statements about causes and effects are not about events outside experiences but about a relation of sense-experiences, otherwise there will be no basis for making these statements. Thus Berkeley makes room for causality without making any reference to objects existing outside sense-experiences.

Another point is raised: when several observers look in the same direction, they get similar sense-experiences, e. g., tree-sense-experiences or table-sense-experiences. If they got different sense-experiences, e. g., one got table-experiences, another got elephant-experiences, and yet another got ship-experiences, naturally communication would not have been possible. To account for these similar experiences, it appears necessary to suppose that there exists the same physical object there causing similar sense-experiences in all the observers. Berkeley could have answered that since physical thing existing unperceived involves a clear contradiction in terms, we cannot use it as the cause of sense-experiences. The concept of cause has to be limited to the sphere of sense-experiences.

Instead of saying so, Berkeley, however, says that God, the infinite mind, directly creates all the sense-experiences of our finite minds, in such a systematic and regular way that we have similar families of sense-experiences. This makes mutual communications, establishment of empirical laws, and predictions possible. God, of course, could have caused our sense-experiences to occur chaotically, but it would not have been advantageous to us. Being good, he works in an orderly manner for our good. Thus, according to Berkeley, reality consists of the infinite mind, the finite minds and their experiences.

The introduction of God as the cause and correlator of our sense-experiences, however, has given rise to severe objections.

1. According to Berkeley's own assertion, we can know only our own experiences. God is not one of our sense-experiences. So we cannot possibly know him to be the cause of our sense-experiences. Berkeley is accused of the same error which he levelled against Locke and the realists.

2. Berkeley's premises, if consistently developed, land us in solipsism. I know only my sense-experiences. So the entire world of objects including the bodies of other people are nothing but families of my sense-experiences. Besides the principle '*esse est percipi*' which applies to physical objects, Berkeley, of course, also says of another principle '*esse est percipere*' which applies to minds. This principle means 'to be is to perceive'. So according to him, not only families of sense-experiences, but the experiencers, i.e., the minds also exist. But obviously, I know only myself to be an experiencer, a mind. I cannot know whether there are other minds or not, because my knowledge is confined to only my sense-experiences and there is no outlet to reach other minds. So for me, I am the only mind and all other things besides me are only families of sense-experiences or physical bodies. This is the weaker form of solipsism. We can also go a step further and say that I and only my sense-experiences in my mind exist. Besides myself and my ideas, there is no other existence. This is strong solipsism. None of us including Berkeley would accept solipsism in any form. But that is where Berkeley's principles lead to.

3. Berkeley says that 'physical objects exist unperceived' is a self-contradictory statement. It is pointed out that it becomes self-contradictory only if we define physical objects as nothing but groups of sense-experiences. But we are not bound to accept this stipulative definition. Berkeley insists that this definition is necessary for avoiding complete skepticism. But this is a questionable assertion.



Further, Berkeley's belief, "Physical objects cannot be thought of as existing apart from a thinking mind" can be interpreted in two ways thus :

(i) Physical objects cannot be (thought-of-as-existing) apart from a thinking mind.

(ii) Physical objects cannot be thought of as (existing-apart-from-a-thinking-mind).

Interpreted as (i), it is true, because nothing can be thought of as doing something without a mind to think with. But interpreted as (ii), it is false, because we do think of things existing in a closed room when no mental being is inside. Perception as a mental process cannot, of course, occur without a mind. But it is logically possible that the object of perception, that which we perceive, can exist without a mind.

4. Now let us examine the idealistic assertion that even if physical objects exist unperceived, we have no good reason for believing that they do so, because "no one has ever observed them existing unobserved".

No one, of course, can ever observe anything existing unobserved. But whatever we do observe can provide evidence for existence of things when unobserved. We frame a hypothesis to explain some facts of experience, deduce conclusions from it, and try to verify them. If observed facts are in order and the hypothesis most satisfactorily explains the phenomena for which it is framed, we take the hypothesis to be true. This is the procedure which common-sense and science have all along adopted to take statements about unobserved things as true. Now the hypothesis that physical things exist when nobody is observing them can be established by such a procedure by observing the burning out of fire-wood left half-burnt, the overflowing of the water tub, left semi-filled with the tap running etc. This is the most satisfactory explanation of observed facts and phenomena without introducing God into the picture, which brings in its wake other difficulties. Most people would



consider this hypothesis to be proved by the observed facts and phenomena, though the hypothesis itself, i. e., 'physical things exist unobserved' cannot be established directly by observation. Berkeley, however, considers the hypothesis itself to be illegitimate, because it is self-contradictory and it becomes self-contradictory only because he defines physical things as families of sense-experiences. Sense-experiences cannot even logically exist unexperienced, true. The definition of physical things as families of sense experiences is a questionable stipulative definition to which we need not agree.

*Q. 76. Explain the phenomenalist's principle "to be is to be perceivable".*

*Ans :* According to idealism, a physical object is a family of actual sense-experiences. But according to phenomenalism, a physical object is a family of actual and possible sense-experiences. When I am looking at a tree, I am having actual tree-experiences. By turning my head away, I cannot have actual tree-experiences, but the possibility of having tree-experiences remains, because when I turn my head again to the former position, I again have the tree-experiences. As long as this possibility of having the tree sense-experiences remains, the tree exists. The possibility of having the tree-experiences does not remain when the tree is cut down and burned. So at that time the tree does not exist. But so long as the possibility of the tree-experiences is there, the tree exists.

A claim for the existence of a physical object is testable. To claim that the table exists in the room I need not be perceiving the table all the time, but it should be perceivable. If I go into the room and perceive the table, the claim is justified. If it is not perceived there, I cannot still claim that the table exists. So for the existence of physical objects the principle is "to be is to be perceivable." The actual carrying out of the test, in some cases, may be technically impossible. In such cases, the truth of the claim remains unverified. But the meaning of the claim is clear. To say that there exist plants in the bottom of the ocean or living organisms in Mars is to say that

if some one reached there, he would perceive the things claimed to exist there. An early phenomenalist, J. S. Mill, therefore, considered matter to be "the permanent possibility of sensation". It will be noted that the phenomenalist's principle "to be is to be perceivable" avoids the necessity of bringing in God as the constant perceiver of all things to retain their existence when we are not perceiving them. As long as the possibility of perception exists, even when there is no existence of actual perception of an object, the phenomenalist asserts that the object exists.

*Q. 77. Explain what are sense-data. How do they differ from sensation and physical object ?*

*Ans :* While having any sense-experience, what we immediately experience without interpreting them or inferring from them are called sense-data.

Suppose, waking up in the morning, I open my eyes and see something red and round at a certain distance. I am having a visual sensation no doubt, but I am not *seeing* a sensation. What I am seeing is a red round spot. What I am actually seeing are sense-data, before I interpret them as a ball or a tomato or realize them to be a mere hallucination.

The words 'idea' of Locke and Berkeley and 'sensation' of Mill have been used ambiguously and are likely to be misleading. 'Sensation', for example, sometimes means the act of experiencing and sometimes means what is experienced. So G. E. Moore proposes that the word 'sensation' be used for the having of the experience and 'sense-datum' be used for what we experience. A visual sensation, for example, is the seeing of a patch of colour, but the patch of colour itself is the sense-datum. I am having the sensation, no doubt, but I am not having the colour. So sensation is distinguishable from sense-datum.

Sense-data also differ from physical objects. Let us take into consideration the example given by G. E. Moore to understand this distinction.

Suppose, somebody shewed to a group of observers an envelope for a moment and then kept it away. Everybody, of course, had a visual sensation and all of them would claim that they saw an envelope. But what each or them actually saw was a patch of whitish colour of certain size that can be roughly described as rectangular in shape. The colour, the size, the shape presented by the sense of sight of each observer to him are the sense-data. The sense-data of each observer, i.e., what were actually seen, viz., the shape, the size, the colour slightly differed from those of others, because of the different positions of the observers, the different distances from which they saw, the difference in illumination relative to their positions, the difference in the strength of their eyesight etc. There were as many sets of sense-data as there were observers, each slightly different from the rest of them, but they were also very similar.

The physical object which they saw of course, was one and the same envelope. But the sets of sense-data, presented by their respective sense-organs, though similar, were not exactly identical. So the sense-data must be distinguished from the physical object. The sense-data are exactly as they appear, but the physical object need not be as it appears.

The language of sense-data is the language of appearance of the thing to the observer. It describes what is presented to his consciousness by his senses. Our description of our sense-data cannot be false unless we (i) tell a lie or (ii) make a slip of tongue or (iii) make a verbal error. My report of my sense-data as a red round spot is, of course, false, if I am actually seeing a green square patch, but intentionally telling a lie; or I am actually seeing a brown jagged spot, but making a slip of tongue and report it as a red round spot, or I am actually seeing a magenta coloured elliptical patch, but lacking knowledge of good English language, describing it as red round spot.

Barring these errors, my description of my sense-data cannot go wrong; but my interpretation of them may go wrong. Suppose, I am actually seeing a red round patch. I may

interpret it as a real tomato, but further examination may show that it is a toy made of wax or a balloon or even a mere hallucination. The physical-object language includes more in its description than the sense-data language. Even if nobody sees any red spot where I see one, it is true that I see a red spot and I really do so. But the moment I use physical object language, I am claiming that it is a tomato, i.e., a physical thing occupying space that can be touched by me, if I reach up to it; and others can also see and touch it and find it to be so. These further claims are the results of my inference from the indubitable and unmistakable sense-data. But these claims can be doubted, can be mistaken about.

The experience of sense-data is the pre-condition, the rock-bottom of all empirical knowledge. But sensing is neither perceiving nor knowing. When a coloured object draws the attention of a baby of a few weeks, he experiences certain sense-data. He does not know them to be a physical object. He perceives physical objects much later. When a set of sense-data is noticed to be in regular pattern constituting a family of sense-data, he perceives it as a physical object. Learning the name and associating unseen characteristics to the object is a still later process. Thus experiencing sense-data is a primary process lacking the complexities of perceiving and knowing. The former is a simpler passive process, which cannot be avoided, if our sense-organs are in working order. The latter processes involve active interpretation, inference, prediction etc and are more complex. Interpretation has already come in when I acquire ability to describe sense-data. When I say that I am seeing a red and round patch, I am in effect saying that the words 'red' and 'round' are correctly applicable to what I am seeing.

Sometimes an objection is raised that we see physical things like book, table, tree etc. directly and immediately; not that we first experience sense-data and then interpret them as book, table, tree etc. There is no question of any inference in perceiving things. To this it is replied that psychologically, we are not conscious of an inference-process in perceiving things.

But logically, our claim about the physical object is an inference all the same from the sense-data given by our senses. Actually, I see an oval white patch. But I declare to have seen a round silver coin. If it were not an inference, we could not explain why the sense-data report is irrefutable, but the physical object report is refutable. Nobody can challenge my statement if I say that I am seeing an oval white patch in front of me. But if I say that I am seeing a silver coin there, the statement is testable and needs support from evidences other than my seeing an oval white patch. A sense-data report is a description on my experience of the present moment. But a physical-object report involves an implicit prediction, which may turn out to be either true or false. When I say that I see a coin over there, I am predicting that if I continue to see in that direction, I shall continue to have similar experiences and if I shall reach there and touch it, I shall experience hard tactual sense-data. These predictions may be falsified. But this falsification will not affect in the least the reality of my experiencing the sense-data at the moment, when I experienced, or the truth of my report of that moment.

*Q. 78 Can my assertion about physical object be as certain as my assertion about sense-data? Discuss.*

*Ans. :* It is generally agreed that my assertion of seeing a red round spot is indubitable, but my assertion of seeing a real tomato is liable to be doubted. The latter assertion is based on inference and is testable. Now the question is what conditions are to be fulfilled in order that we can say with certainty about the existence or nature of physical objects?

According to some philosophers, e. g., C. I. Lewis, no physical object statement can ever be asserted with certainty.

The family of table-sense-data is infinitely large. There is no end to the position from which we can take a view of the table and we can never exhaust all the members of the table-sense-data family. It is always possible to suspect that in between two of our experiences, if we might have tried to see the

table, there is no knowing what we would have seen. There always remains the possibility that one such experience might have overthrown our belief about the existence of the table. We can never completely verify the truth of our statement. So we can never know beyond doubt that it is a table.

Lewis argues that even if our belief about a piece of paper existing in front of us be verified till this moment satisfactorily and confirmed so far, still, theoretically, we cannot say that the verification is complete. There are surely many more implications that yet remain to be tested. Further, there is also the possibility that in future some other tests relevant to our knowledge of the physical object concerned may be devised which may affect our present belief in it. So, theoretically, all the verification that has been made or will be made is only partial verification and our knowledge about the physical object is never absolutely certain. Some tests, it may be conceded, may render our knowledge of physical objects *practically* certain. But practical certainty is not absolute certainty. It cannot be said to be immune to any doubt at any time.

According to other philosophers, e. g., N. Malcolm, there are many physical-object-statements that are completely certain.

Malcolm takes for example the statement that Milton's *Paradise Lost* begins with the words "Of Man's first disobedience". The only decisive and conclusive test for the certainty of this statement is to carefully look at the concerned page and make some other observers look at it for confirmation. It is absurd to doubt the statement and repeat looking and making more and more people look at that page for 'further verification'. In fact, verification is complete after our first careful examination of the case, and to call the subsequent repetitions 'further verification' is a misuse of the word 'verification'.

It is, of course, not self-contradictory, but false to deny the statement. It is not an analytic proposition and it is logically possible to state that the statement might be false.



But this consideration is irrelevant here. What is relevant here is to show evidence, if any, that makes the statement uncertain.

Malcolm points out that the proponents of the verification argument consider a statement to be certain only if an infinite number of tests could be performed. But this is impossible even in theory. So what they call theoretical certainty is unattainable even in theory. Further, their identification of 'absolute certainty' with the above 'theoretical certainty' renders a statement like 'It is absolutely certain that Socrates had a wife' self-contradictory. The statement is not simply false or unjustified but self-contradictory, because it would imply that somebody has actually performed an infinite number of tests in this case.

At this point, one may wonder whether our sense-data reports are absolutely certain even while we are having a sense-experience. I am absolutely certain on what I experience, i.e., the sense-data. But the moment I try to describe it as 'red', then I am liable to error. In effect I am saying that it is similar to some of my past experiences and all of them belong to the same class describable as 'red'. Thus we are going beyond the present sense-datum to past ones depending on memory, which is fallible. We experience what we experience, there is no doubt about it. It is an analytic statement. If we could name every sense-datum by a different proper name, we would not be relating it to anything else. But by using a descriptive word like 'red', we are not confined to the sense datum of the present moment, but relate it to those of the past and also of the future which we will experience. In this we are liable to error. A pure sense-datum report is certain, but it cannot be made. It should be noted, however, that besides these verbal errors, we are liable to also empirical errors in giving physical object statements. But sense-datum statement, if it could be made, would be free from empirical errors.

Q. 79. *Critically examine the phenomenalist thesis that physical-object-statements can be translated to sense-data-statements*

Ans. : Mill's statement, viz., "Matter is the permanent possibility of sensation" can be expressed in the terminology of the modern phenomenalist as "Physical object is the permanent possibility of sense-data". If I am in an upstairs room now, I am actually experiencing the upstairs-room-sense-data. The upstairs room exists, but the downstairs is only a possibility of sense-data, if no one is there. It is questioned as to how a possibility of sense-data not actually existing can hold a room, the existing sense-data. The contemporary phenomenalist, in this situation, says that proposition about the existence of unperceived things can be realised to be a true proposition, when it is expressed in the form of a hypothetical proposition about sense-data of the form : "If X-conditions are fulfilled, then Y-sense-data would be perceived." For example, we are in room No. 1 and we say "There is a table in room No. 5". This proposition is translatable to the proposition : 'If some observer were in room No 5, he would perceive a table.' Now, this latter proposition can be verified to be true and is also true now. So the proposition 'there is a table in room No. 5' is true now, though the table is unperceived. This explains the purpose of the phenomenalist programme of translating physical-object-statements into sense-data-statements.

It is, however, pointed out that the above translation is unsuccessful, because it contains at least three physical object references, i.e., (i) the observer, (ii) the location, viz., room No. 5 and (iii) the object, viz., the table that would be perceived.

The phenomenalist persists that perceiving the table can easily be expressed as perceiving the table-sense-data. But it should be noted that to assure the observer that this perceiving is not hallucinatory, a convincing number of the family of table-sense-data has to be perceived.

The reference to the observer, another physical body like the table, can similarly be changed to sense-data expressions, according to the phenomenalist. But it should be noted that the observer is not simply a body, but also a mind and this reference to mind has to be retained in the translation.

The reference to the physical location, viz., room No. 5 is the most difficult to be translated into sense-data-language. The room No. 5 being part of the physical space seems incapable of being expressed in sense-data terms. But the phenomenalist insists that this can be done by describing the successive and over-lapping sense fields that extend from the present position of the observer in room No. 1 to his position till he reaches room No. 5, if he is to move from this place to room No. 5. The location of room No. 5 should not be described in terms of distance and direction, because they are physical co-ordinates, but should be expressed by a series of sense fields, e. g.,  $S_1 S_2 S_3$  etc., that would be experienced, if one were to move from this place to room No. 5. And at every stage, the observer has to assure himself that the sense-field is not hallucinatory, but real. Obviously, this is a staggering task.

Similar difficulties are involved in dealing with propositions expressing time. So a proposition like 'Caesar was in Rome in 50 B. C.', is to be translated, according to the phenomenalist, involving sense-datum routes in time through veridical successive sense-field connecting the present time with 50 B. C. Even if possible in principle, practically, it appears to be a well nigh impossible task. But according to the phenomenalist that is how our concepts of the physical space and time have been constructed from the given sense-data.

In any case, however, a very pertinent question that haunts us is how could we at all begin our choice of sense fields and our arranging them in successive order, unless we had already in our mind the thought of a physical world ordered in space and time? It seems the phenomenalist is putting the cart before the horse,



Q. 80. Critically examine the concepts of causality and the status of laws of nature in phenomenalism.

Ans. : Causation : To the question, 'what is the cause of sense-data?' the phenomenologists remark that the answer cannot be given in terms of God or physical object. According to them, it is a misconception to suppose that there are two kinds of realities in the world, physical objects and sense-data, and causation is a relation between them. Causation takes place in the realm of physical objects, but the physical-object-statements about this relation is translatable to sense-data statements. Thus, 'X' causes 'Y' can be translated as X-sense-data are regularly followed by Y-sense-data. And since this is believed to be the case even when we are not in a position to observe either the cause or the effect or both, we can accordingly translate by hypothetical propositions thus :

- (i) If (if we were in position 1, we would experience X-sense-data), then Y-sense-data occur.
- (ii) If X-sense-data occur, then (if we were in position 2, we would experience Y-sense-data).
- (iii) If (if we were in position 1, we would experience X-sense-data), then (if we were in position 2, we would experience Y-sense-data).

With regard to my experiencing the tomato-sense-data, when a tomato is in front of me and light rays from it impinge on my retina, I, of course, do not see the tomato first and then experience tomato-sense-data. So the tomato causing my sense-data is a matter of inference.

When there are other observers along with me it is possible to arrange the following experimental situation. When I experience tomato-sense-data and their body-sense-data, then I experience my auditory sense-data of their declaring 'tomato' or reporting that they are experiencing a reddish roundish sense-datum. Again, when I experience cucumber-sense-data and their body-sense-data, then I experience my auditory sense-data

of their declaring 'cucumber' or reporting that they are experiencing a greenish longish sense-datum. But if they are blindfolded, they do not report as above, even when the experiment is repeated. I cannot experience their sense-data, but from the above evidence can infer that their sense-data are caused by physical objects in suitable perceptual circumstances.

From all this I can infer further that my own sense-data are also caused similarly, though I cannot experience first physical objects as cause and then sense-data as effect directly.

*Laws of Nature* : Let us consider the law of nature : 'Lightning precedes thunder' or 'If there is lightning, there is thunder'. There is an invariable relation between the two physical events. Now if we translate this as : 'If we experience lightning sense-data, then we experience thunder sense-data', then the statement is obviously false sometimes. If some of us are blind and some deaf, then a recognisedly true law of science expressed in sense-datum language becomes false. An elastic ball struck against a wall, of course, rebounds. Now if we see it striking the wall but thereafter close our eyes, then the ball-striking-the-wall-experience is not followed by the ball-rebounding-from-the-wall-experience. Thus the most secured laws of nature seem to be disproved by just blinking the eyes or turning the head, if they be stated in sense-data language.

The fact is that laws of nature deal with things, events and processes of the world, irrespective of whether they are being perceived by somebody or not. Sense-data, however, are fragmentary, fleeting and evanescent. So it appears that relation of brute realities of nature cannot adequately be expressed in terms of sense-data. Science seems to be impossible if phenomenalism is correct.

The phenomenologists, however, do not subscribe to the above comment. In their opinion, the above translation of the law about lightning and thunder is a misrepresentation.



Perception of lightning and thunder is not unconditional. If we specified the appropriate conditions, the phenomenalist expression of the law would be true, not false.

If (if conditions of perception<sub>1</sub> then lightning sense-data), then (if conditions of perception<sub>2</sub> then thunder-sense-data). Now, if we properly specify both the perceptual conditions, then the hypothetical proposition is true, even when either or both the conditions are unfulfilled and no perception of either the lightning or the thunder or both occurs in the case of some people.

Whether anybody perceives or not, lightning will continue to be followed by thunder, stone walls will continue to have the causal characteristic of impenetrability. But we learn this through our experience of sense-data. The knowledge of the existence of the causal characteristic depends on the truth of the hypothetical proposition about sense-data. And this hypothetical proposition is true, according to the phenomenalist, even when the concerned sense-data of the antecedent or consequent clause of the hypothetical proposition are not perceived.



